Issue 150
PS
1965 Series
THE PREVENTIVE MAINTENANCE MONTHLY
Will Eisner

HOW FAST 'N HOW FAR

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IN MAINTENANCE...
IN READINESS—

KNOWLEDGE IS POWER

Remember the old saying—"Knowledge Is Power"?

It's especially true if you've got to keep Army equipment ready for combat.

The smartest guy in this man's Army can't do much maintaining on a tank or a missile or a radio unless he has the know-how.

Where do you get it? Training—in school or on the job—is one way. But, sometimes questions and problems will raise their ugly heads that'll stump even the best trained man. So, what else?

Your publications, that's what.

The Army puts out a Technical Manual on almost every piece of equipment. They tell you how to maintain your equipment.

But if you don't have one . . . what then?

Getting a pub also takes a little know-how. First, you find out what manual you need. The best way is to use the Index, DA Pamphlet 310-4. Then order the number of copies of the TM you need on the order blank,

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If you're the operator or user, you'll need the TM with a number ending in -10, the operator's manual, or -12, the operator and organizational maintenance manual. The TM ending in -20 is for your unit mechanic (organizational maintenance).

You'll also want the parts manual; it has the same number as the TM except it has a **P** added at the end . . . like the -12P or -20P.

The TM may not be the only pub you'll need. In the Index you'll see Technical Bulletins, Supply Bulletins and Modification Work Orders (TB, SB, MWO). Get all that tie-in with your equipment. Also, some gear has Field Manuals (FM). Find them listed in their own Index, DA Pamphlet 310-3.

Get the pubs—and from them you can get the know-how you need to keep your equipment maintained . . . ready to fight.

That way you and your unit can prove that Knowledge Is Power—to win in combat.

PS

Published by the Department of the Army for the information of organizational maintenance and supply personnel. Distribution is made through normal publication channels. Within limits of availability, older issues may be obtained direct from U. S. Army Maintenance Board, Attn: PS Magazine, Fort Knox, Kentucky 40121.

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Issue No. 150 1965 Series

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Use of funds for printing of this publication has been approved by Headquarters, Department of the Army, 19 February 1965.

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PS Magazine,
Fort Knox, Ky.
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You wouldn't want to miss getting a copy of some order—like one that hit you with a promotion, for example, now would you?

There are some other mighty important orders—the Army publications on your equipment . . . technical manuals, lube orders, technical bulletins, modification work orders, supply manuals, supply bulletins, pamphlets, circulars, field manuals and regulations. You'll notice that they're signed off by the Army Chief of Staff and The Adjutant General. Real top level.

You want to make sure you don't miss out on any of these that might be about equipment you operate, maintain or supply. To make sure, just remember that the pubs reach you by two routes—

PINPOINT and FORMULA

YOU GET SOME PUBS VIA . . .

PINPOINT DISTRIBUTION

To make pinpoint work, your unit has to fill out and send in these forms: **DA Forms 12-4, 12-8 and 12-9**—administrative-type pubs (pamphlets, circulars, PS Magazine, regulations.) The form is sent to the Baltimore Publications Center by a headquarters no lower than battalion, except for separate companies.

THESE FORMS GET THE SAME TREATMENT BUT, ARE MAILED TO **ST. LOUIS PUBLICATIONS CENTER.** AND, THERE ARE NEW PINPOINT FORMS BEING MADE UP TO COVER MORE TYPES OF PUBS ...**WATCH FOR 'EM!**

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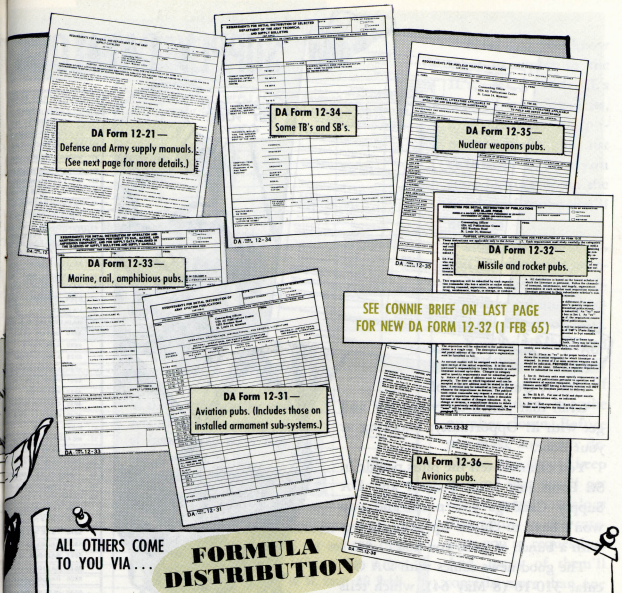

ALL OTHERS COME TO YOU VIA . . .

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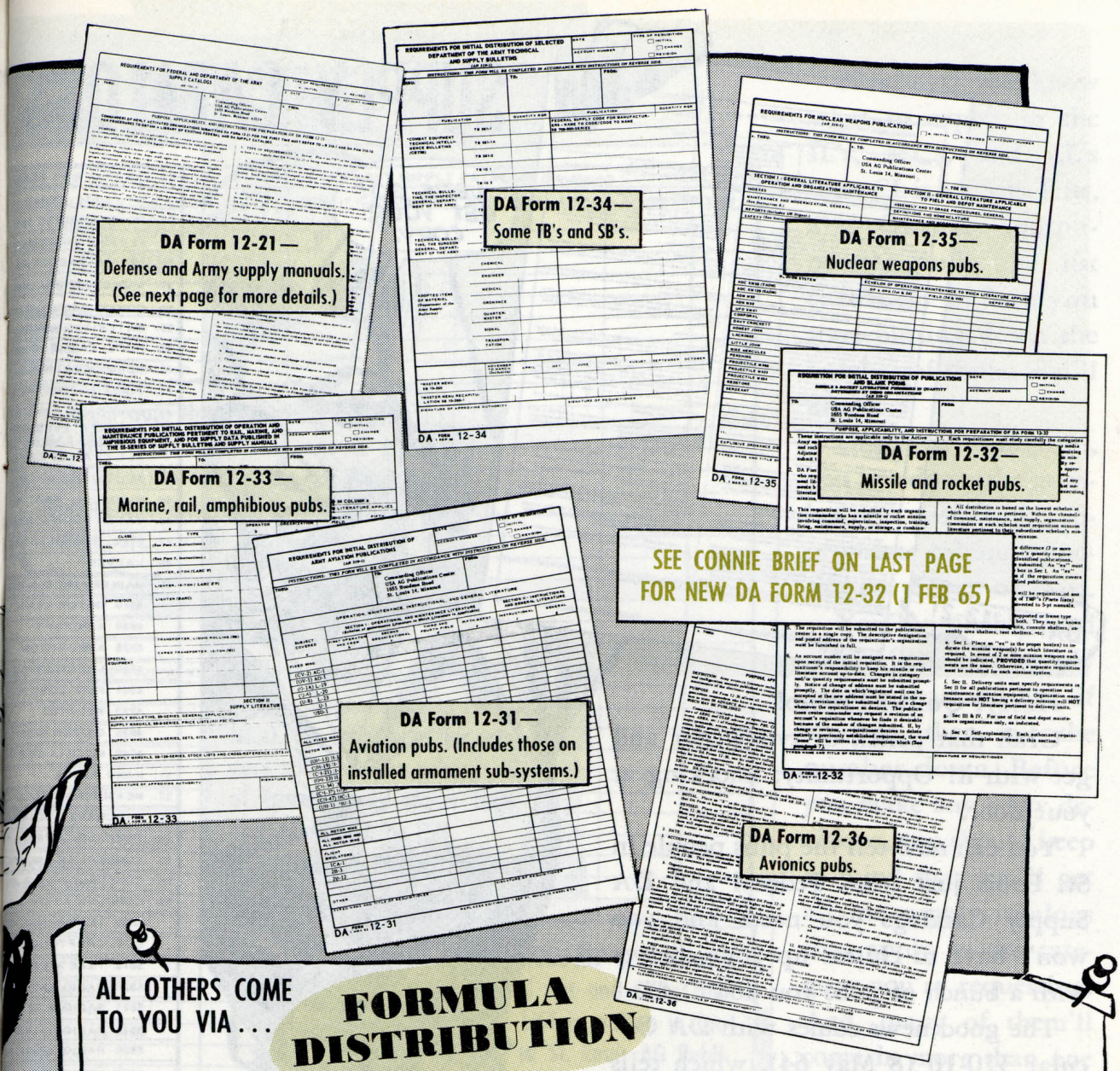

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SUPPLY CATALOGS

Hurry! Quick! Pronto!

Grab that pencil or typewriter and get with it! Opportunity; knocking at your door.

You can now tell the pubs people in St. Louis just what Federal and DA Supply Catalogs you need, and you won't have to clutter up your shelves with a bunch of pubs you don't use.

The good news comes with DA Circular 310-10 (8 May 64), which tells about DA Form 12-21 (1 May 64).

Cir 310-10

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *8 May 1964*

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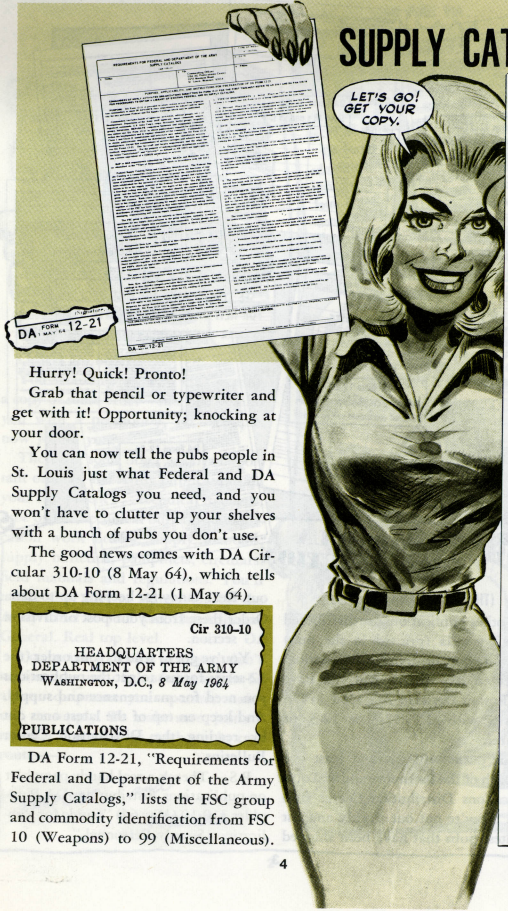

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REQUIREMENTS FOR FEDERAL AND DEPARTMENT OF THE ARMY SUPPLY CATALOGS *(Continued)* SKO COMPONENT

FSC GROUP AND COMMODITY IDENTIFICATION	IDENTIFICATION LIST	MGMT DATA LIST	~~CROSS-REF~~ LIST
34. METALWORKING MACHINERY			
35. SERVICE AND TRADES EQUIPMENT			
36. SPECIAL INDUSTRY MACHINERY			
37. AGRICULTURAL MACHINERY & EQUIPMENT			
38. CONST., MINING, EXCAVATION & HIGHWAY MAINT			
39. MATERIALS HANDLING EQUIPMENT			
40. ROPE, CABLE, CHAIN & FITTINGS			
41. REFRIGERATION & AIR CONDITIONING EQUIPMENT			
42. FIREFIGHTING, RESCUE & SAFETY EQUIP			
43. PUMPS AND COMPRESSORS			
44. FURNACE, STEAM PLANT AND NUCLEAR REACTORS			
ALL CLASSES EXCEPT			
ALL CLASSES PERTAIN			
45. PLUMBING, HEATING & SANITATION			
46. WATER PURIFICATION & SEWAGE			
47. PIPE, TUBING, HOSE & FITTINGS			
48. VALVES			
49. MAINTENANCE & REPAIR SHOP EQUIPMENT			
4910 MOTOR VEHICLE			
4920 AIRCRAFT			
4925 AMMUNITION			
4930 LUBRICATION & FUEL DISPENSING EQUIPMENT			
4931 FIRE CONTROL			
4933 WEAPONS			
4935 GUIDED MISSILE			
4940 MISCELLANEOUS			
51. HAND TOOLS			
52. MEASURING TOOLS			
53. HARDWARE AND ABRASIVES			
54. PREFABRICATED STRUCTURES & SCAFFOLDING			
55. LUMBER, MILLWORK, PLYWOOD & VENEER			
56. CONSTRUCTION & BUILDING MATERIALS			
58. COMMUNICATION EQUIPMENT			
5805 TELEPHONE AND TELEGRAPH			
5810 CRYPTOLOGIC			
5815 TELETYPE AND FACSIMILE			
5820 RADIO AND TV EXCEPT AIRBORNE			
5821 RADIO & TELEVISION, AIRBORNE			
5825 RADIO NAVIGATIONAL EXCEPT AIRBORNE			
5826 RADIO NAVIGATIONAL, AIRBORNE			
5830 INTERCOM & PA SYSTEMS EXCEPT AIRBORNE			
5831 INTERCOM & PA SYSTEMS, AIRBORNE			
5835 SOUND RECORDING & REPRODUCING EQUIP			
5840 RADAR EQUIPMENT EXCEPT AIRBORNE			
5841 RADAR EQUIPMENT, AIRBORNE			
5845-95 ALL OTHER CLASSES IN GP 58			
59. ELECTRIC & ELECTRONIC EQUIP COMP			
61. ELEC WIRE & POWER DISTR EQUIP			
62. LIGHTING FIXTURES & LAMPS			
63. ALARM & SIGNAL SYSTEMS			
6310 TRAFFIC & TRANSIT SIGNAL SYSTEMS			
6320 SHIPBOARD ALARM & SIGNAL SYS			
6330 RR SIGNAL & WARNING DEVICES			
6340 AIRCRAFT ALARM & SIGNAL SYS			
6350 MISCELLANEOUS SYSTEMS			

THREE COLUMNS—USE THEM ALL

You'll note there are three columns on the 12-21. The first one is the IDENTIFICATION LIST. These IL's furnish identification data, such as FSN, nomenclature, etc.

Then there's the MGMT DATA LIST (Management Data List or ML's). The catalogs in this category will give you prices, unit of issue, supply status code, and, of course, the FSN.

The CROSS-REF LIST column is crossed out and SKO COMPONENT LIST is written in (according to St. Louis AG Publication Center Letter AGAM-L, 16 July 1964). That SKO is an abbreviation for Sets, Kits, and Outfits. (Most of these will be published as DA Supply Catalogs.) You go down the list to make sure you're ordering what you need but don't get your shelves cluttered with "nice to have" pubs.

REQUIREMENTS FOR FEDERAL AND DEPARTMENT OF THE ARMY SUPPLY CATALOGS *(Continued)* SKO COMPONENT

FSC GROUP AND COMMODITY IDENTIFICATION	IDENTIFICATION LIST	MGMT DATA LIST	~~CROSS-REF~~ LIST
65. MEDICAL, DENTAL, & VET EQUIP & SUP			
66. INSTRUMENTS & LABORATORY EQUIPMENT			

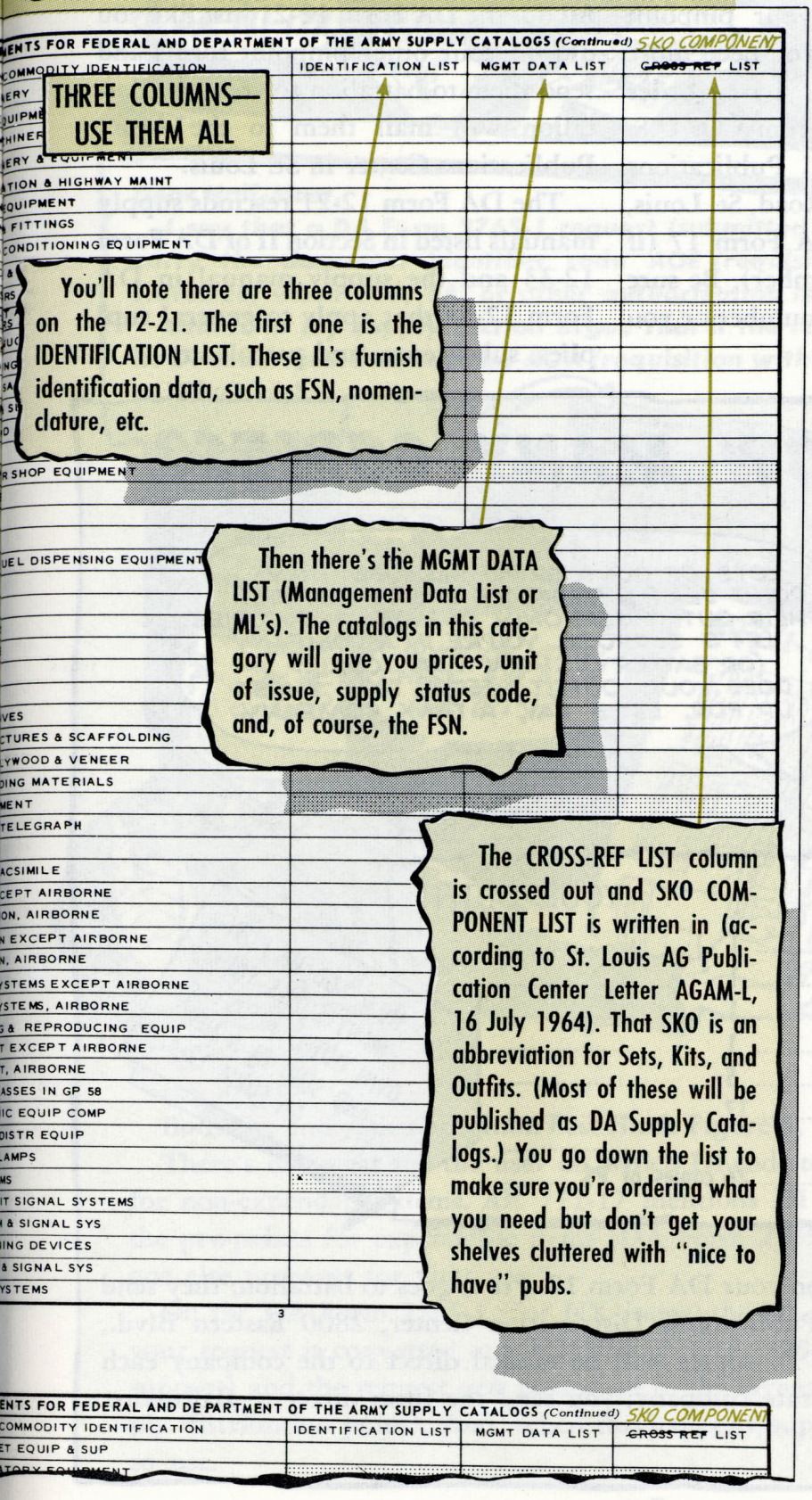
Now that you know what to expect in the IL's, ML's, and CL's (that CL is for Sets, Kits, and Outfits Components), study the list carefully before you start putting down the number of copies you'll need.

Once you've decided, you put down the number you need in the appropriate column opposite the group or class.

You'll probably need more of one type supply catalog than another. If you do, then put the number down. Before you make any hasty decisions, you should keep in mind that you'll get all the supply catalogs that apply to the category you're requesting. And, many of them'll come in more than one volume. For instance, if you request IL's for the 53 group, you'll get ten volumes of C5305-IL (screws).

MORE

GO PINPOINT



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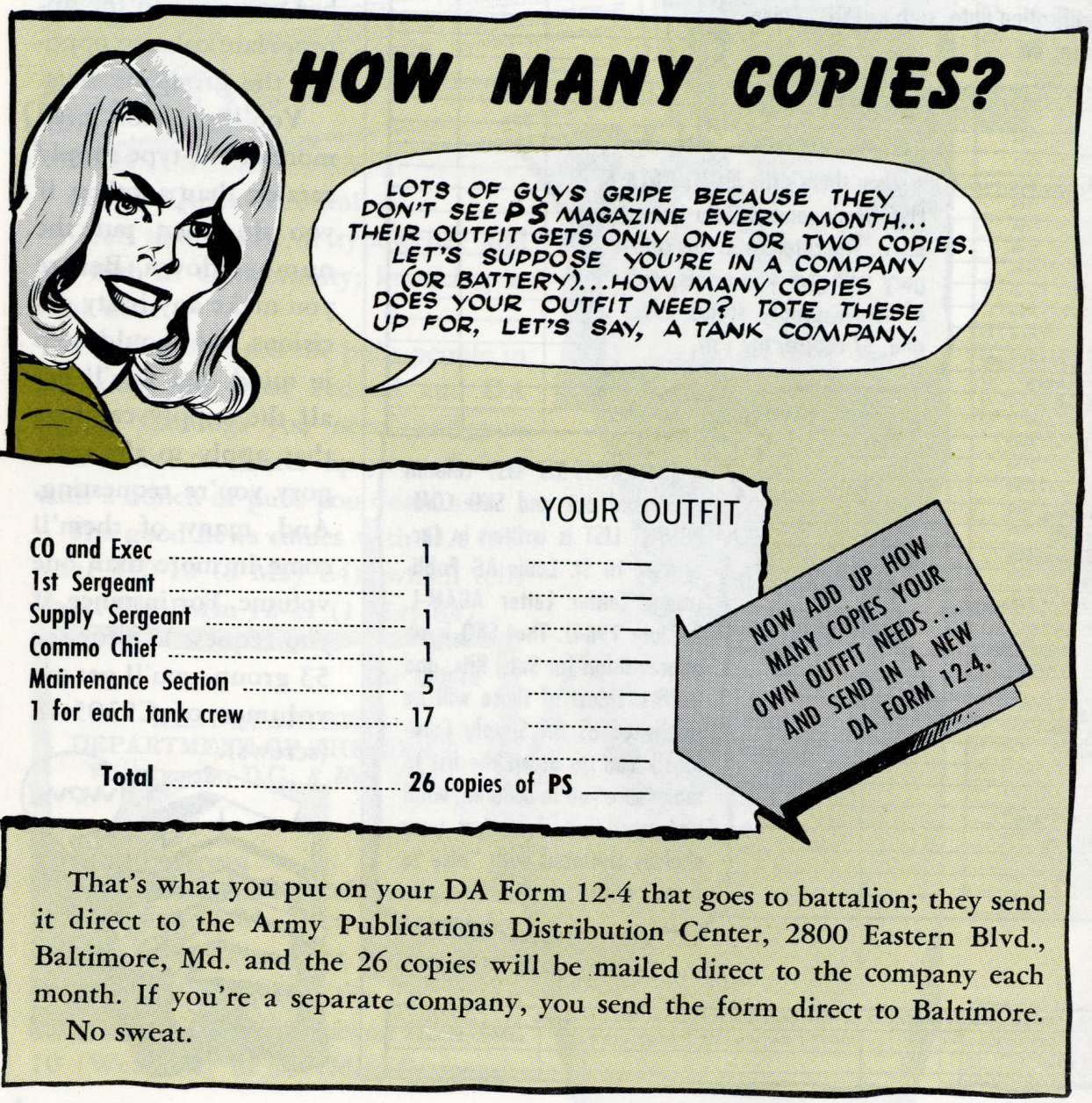
PS MORE

To keep from overloading your shelves with extra volumes of catalogs you don't need, keep your pinpoint order to a minimum. If you need more on one particular subject, you can order the extra copies direct from CO, U.S. Army Adjutant General Publications Center, 1655 Woodson Road, St. Louis, Missouri 63114 on a DA Form 17 (if you have an account number). Be sure to include your account number or you won't get them.

Now that you know about the supply catalogs, here's how to get 'em. You fill out the DA Form 12-21 just like you did on your other pinpoint forms and send them to battalion for review. Battalion will mail them to the Army Publications Center in St. Louis.

The DA Form 12-21 rescinds supply manuals listed in Section II of DA Form 12-33 and the supply manual in DA Form 12-34 that apply to general supplies, subsistence, and petroleum.



That's what you put on your DA Form 12-4 that goes to battalion; they send it direct to the Army Publications Distribution Center, 2800 Eastern Blvd., Baltimore, Md. and the 26 copies will be mailed direct to the company each month. If you're a separate company, you send the form direct to Baltimore.

No sweat.

THE DI CODES

Dear Sergeant C. W. S.,

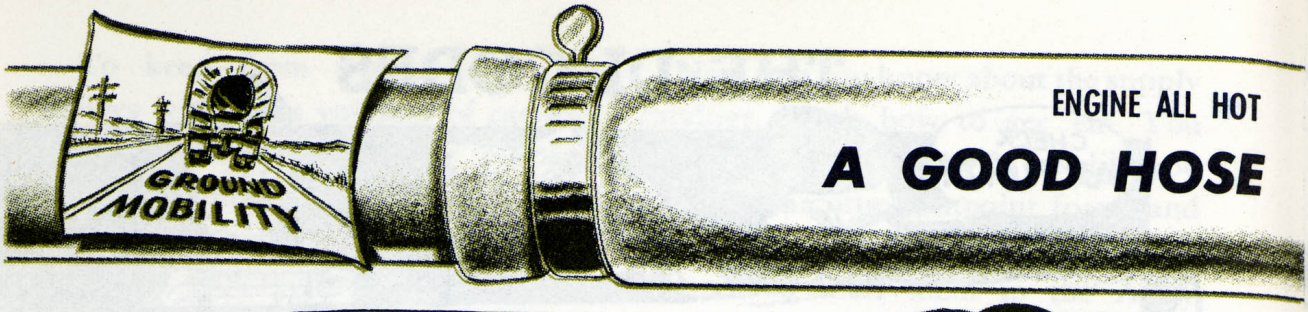
It's a draw.

Both you and your opposition best check Figure 3, AR 711-17.

There's no sweat for the user on which DI code to use on DA Form 2765-1, for non-expendable items. AR 711-17 mentions DI codes in connection with the **pre-prints** for expendable items (DA Form 2765) which support or someone else prepares for your use.

On the DA Form 2765-1 (for NX items) the DI code comes into play when your request is converted to a MILSTRIP (AR 725-50) requisition (by your support) and the request gets passed on to the inventory control point (the supply distribution point). And, when this happens, support decides which DI code to use.

Half-Mast



ENGINE ALL HOT

A GOOD HOSE

Bad hoses and overheated engines just naturally go together.

Your engine's radiator hoses are expected to let anywhere from 4000 to 10,000 gallons of water circulate thru the engine's cooling system every hour, depending on the size of the type vehicle you drive. A bum hose puts a crimp in this swift river and your engine starts overheating. An engine that heats up just three degrees over its best operating temperature is losing a lot of pep.

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AND BOTHERED?

JOB'LL COOL IT

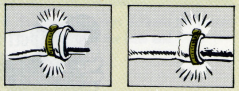
DANGER SIGNS

If you see any water around your hoses, then you know something's wrong. But here're a few things to watch for even before the hoses do leak. Be suspicious of:

1. MOISTURE OR LITTLE BEADS OF WATER ALONG HAIR-LINE CRACKS OR AROUND HOSE CONNECTIONS.

This sign tells you that the hose is deteriorating and has only a short time to go before letting go.

2. CLAMPS THAT'RE CUTTING INTO YOUR HOSE, POSITIONED TOO NEAR THE HOSE EDGE OR RIDING THE RIDGE OF THE INLET'S BEAD.



Never tighten clamps so they'll cut or dig into the hose. Keep 'em snug but not overtight. They must always be positioned between the inlet bead and the hose edge.

3. A HARD AND STIFF HOSE.

This may mean your hose has deteriorated and dried out. Engine vibration can snap open or split a hose in this condition.

4. A MUSHY-SOFT HOSE.

A mushy-soft hose means you've got a rotten hose. It's a good bet that pieces of rotten rubber inside the hose are falling off into the cooling system. Pretty soon the system gets loaded up and becomes clogged.

5. CRACKS ON THE OUTSIDE COVER OR PUFFED OUT ENDS.

If read correctly, both of these signs say: Lining's shot—get a replacement from supply right quick.

MORE

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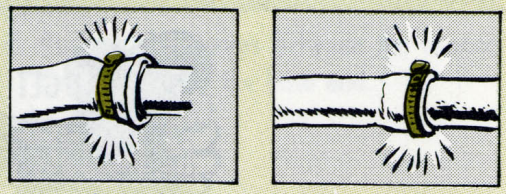

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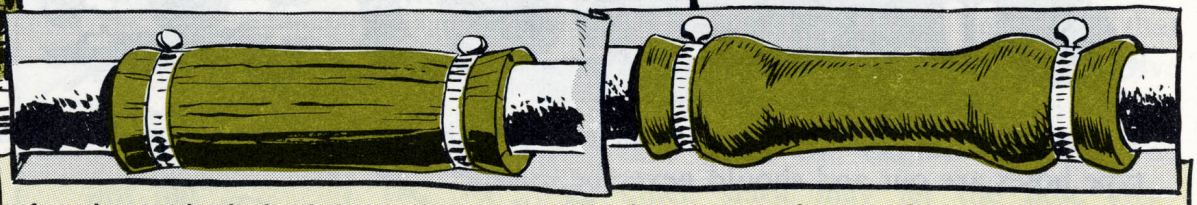

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P.S. MORE

OPERATION CHECK

If you have any doubts at all about your hose condition, check 'em all with the engine running. Watch to see if the hose wrinkles or folds inward. This

means it's too weak to hold up when there's a vacuum inside it. The vacuum comes from the water pump's action at high speeds.

Please don't get too nosy when you're watching . . .

This sort of during-operation check also tells you whether the hose clamps are on right. If they're loose, water begins to leak at the ends when the pump's going full blast.

If your hose is suffering from any of these troubles, it's time for an operation replacement.

Get a new hose. Make sure it's the right one according to your vehicle's supply manual or TM 9-2300-223-20P.

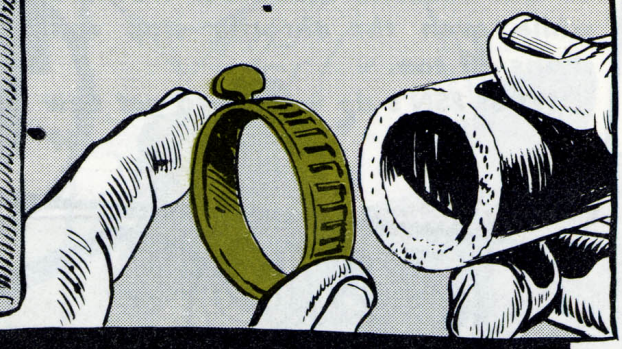
Normally, tactical wheeled vehicle hoses are semi-soft and flexible. Hard-type hoses are out and should never be used.

Some hoses must be cut from bulk stock. When this is done make sure the piece is cut so it'll overlap the inlet and outlet tubes from 1½ to 2 inches.

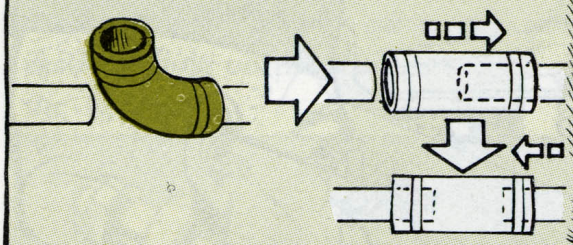
TO INSTALL A NEW HOSE:

1. Scrape the dirt and pieces of stuck rubber from the inlet and outlet connections. Clean 'em real good. Any piece of old hose left on may lick your chances of getting a water-tight seal.

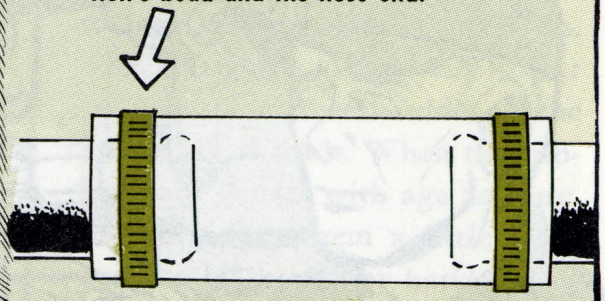
2. Check the clamps for a snug fit on the new hose. Slip them over the hose before putting the hose on the water outlets.



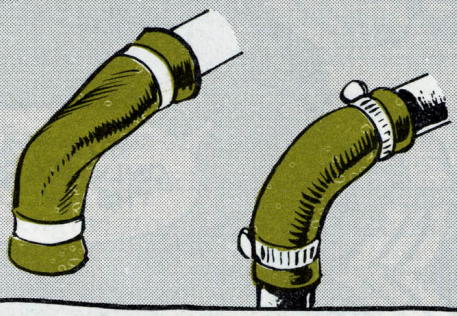
3. Bend the hose in the middle and slip each end on the connections. Then position the hose so it's centered between both connections.



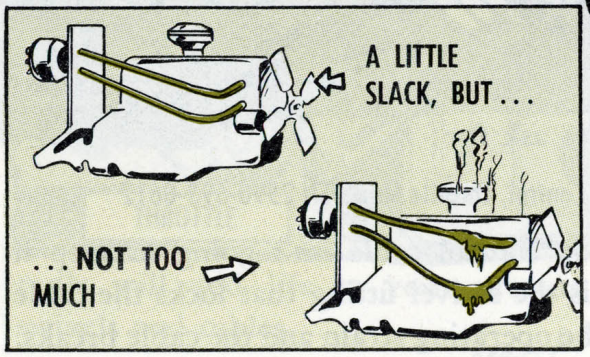
4. Position the clamps between the connection's bead and the hose end.



5. Straighten out any twists.



6. Tighten the clamps. Make 'em snug and no more.



If you have a water heater, see that the heater hose has a little slack. Give it just enough to keep it from getting taut when the engine vibrates. Too much slack may let the hose sway against the hot manifold. And, nothing melts or dries up rubber like hot metal.

END

NEW SWIVEL FOR . . .

STOP

Dear Half-Mast,

We've been having trouble with the engine fuel shutoff valve stop control cable breaking on our M35A1, multi-fuel truck. Once in a while even the throttle stop control-cable snaps off too.

What FSN's do we use to get new ones?

SP 4 T. M.

Dear Specialist T. M.,

To get replacement stop control cables ask for:

Control, Engine Stop, FSN 2990-849-8799, Control, Throttle Stop, FSN 2590-693-0612

But just putting on a new engine-stop control cable isn't going to keep it from snappin' off again. The problem is the swivel fitting that locks the cable to the valve operating rod. It can't take the operating strain and the cable breaks.

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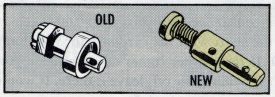
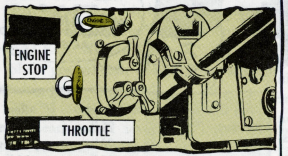
What you need is a new swivel fitting. Requisition swivel, FSN 2990-968-0033.

When you hook up the new fitting to the fuel shutoff valve rod, it gets fed thru the rod eye with the screw on the engine side. Your cotter pin goes thru the hole on the thinner section of the fitting.



The control cable goes into the hole on the thicker section and is clamped tight by the screw.

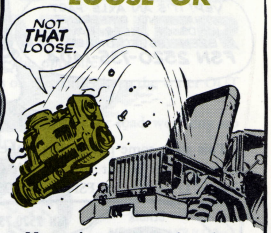
Regardless of which swivel you have, watch the muscle power when pulling the engine stop or throttle handle. Easy



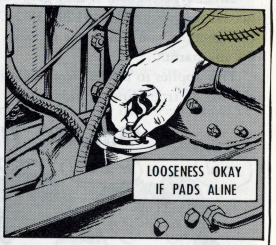
pulls will add life to your present swivels and cables.

Half-Mast

LITTLE LOOSE OK



No need to sweat or fret about a little play in your M35A1 2½-ton truck's engine mounting bolts. They'll tighten down only so far on account of the shoulder at the end of the threads. When the rubber pads get set with age and use, the bolts may seem a little loose and can be rotated by hand.



As long as there's no misalinement at the center of the upper and lower pads, you can rest easy. If there is misalinement, tho, the engine may shift to one side. Then the pads gotta be replaced.

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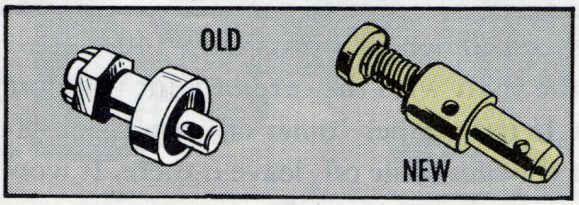

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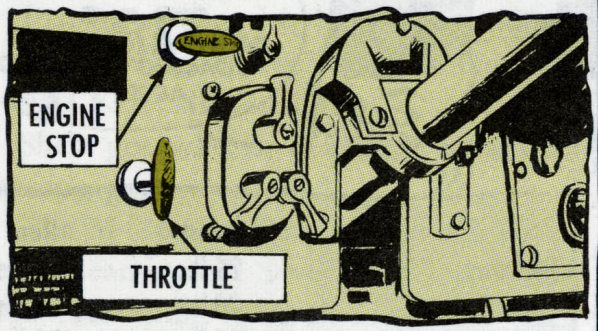

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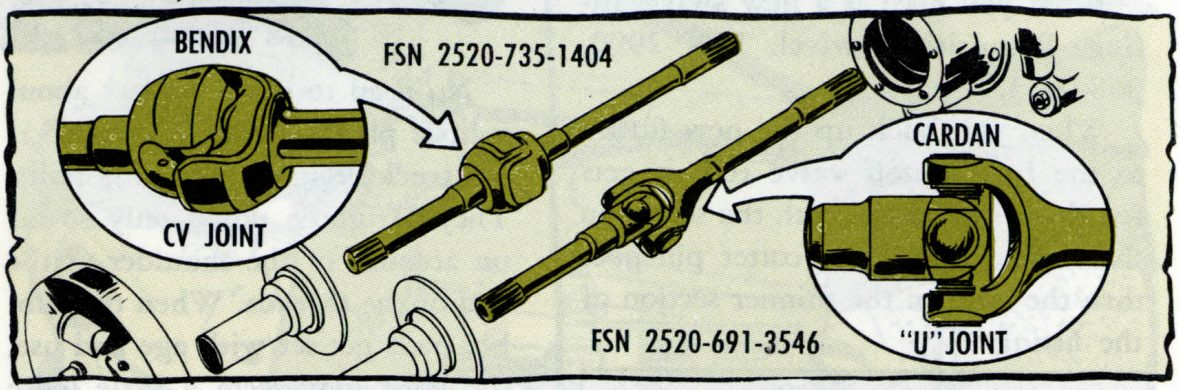
M38A1 AXLE FACTS

This gave some people the shakes. They can stop vibrating now that a new stock number is out for the left front axle shaft with the cardan conventional "U" joint. It's FSN 2520-691-3546.

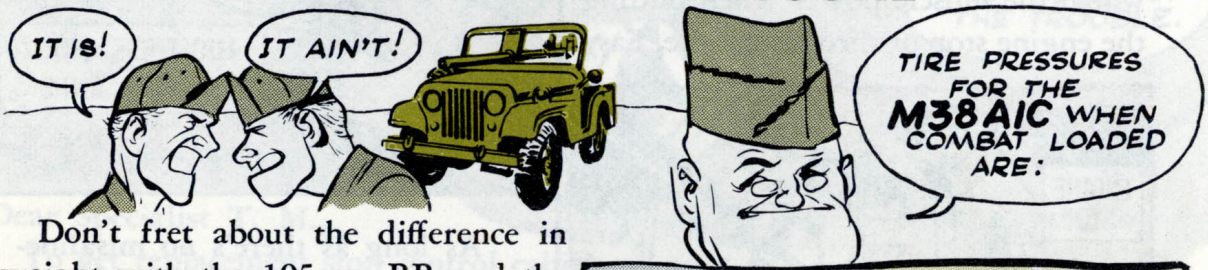


The CV joint type axle will still be issued under FSN 2520-735-1404.

Either type is good. If they give you the shaft with the cardan joint you don't need thrust washer FSN 3120-738-2870. If the washer comes off easy when you change axles you can throw it away. If it won't come off, leave it there. It won't do any harm.

This applies to the left front axle shaft on both the M38A1 ¼-ton truck and the M170 front line ambulance.

M38A1C TIRE PRESSURE



Don't fret about the difference in weight with the 105mm RR and the 106mm RR, whichever's mounted on your ¼-ton truck M38A1C. Tire pressure figures are the same under either load.

	Front	Rear
Highway	25 lbs	35 lbs
Cross Country	20 lbs	25 lbs
Mud, Sand and Snow	15 lbs	20 lbs

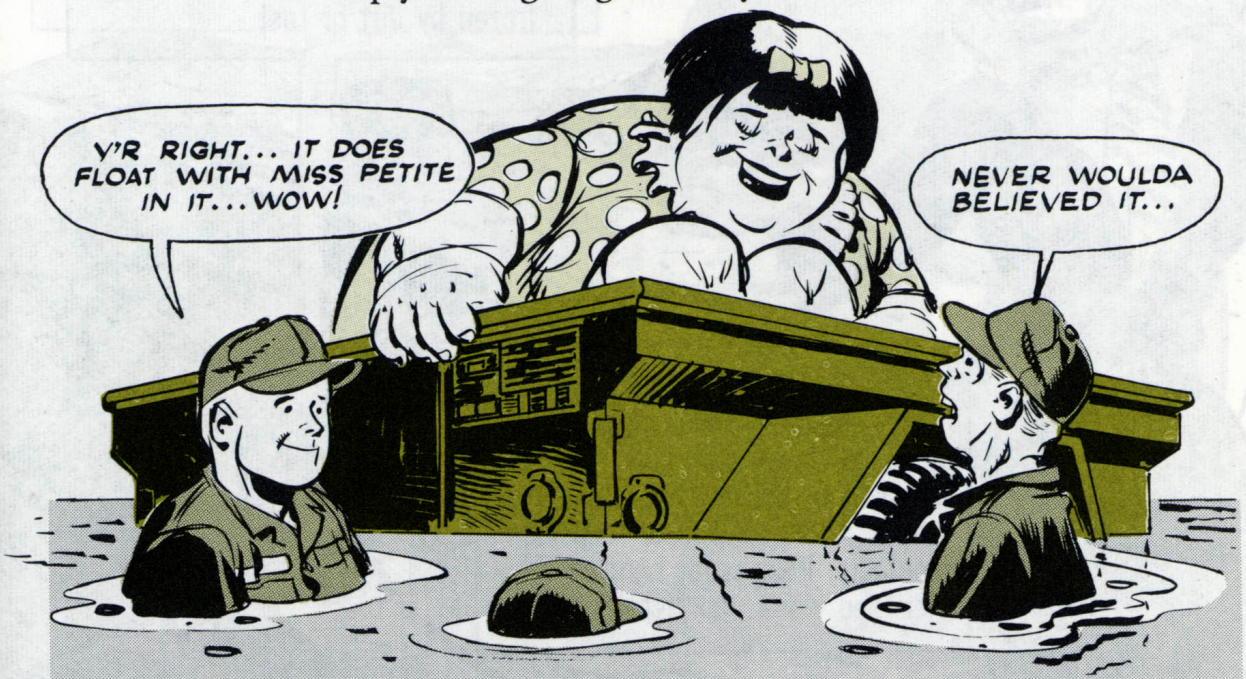
BE YOUR OWN INSPECTOR

M416 1/4-TON CARGO CARRIER

A riddle: What's like a bathtub only just the opposite?

An M416 ¼-ton cargo trailer! The plugs on the trailer keep the water OUT 'stead of IN.

You can shanghai the circus fat lady—or ferry any other load weighing up to 500 lbs—and keep your cargo high and dry.



This little baby's even better'n a boat, 'cause she'll wheel into one side of a stream, float like a cork goin' across and run out on the other side. Then she'll roll right on down the road or across country—with a little help from an M151 or M422 ¼-ton truck, o' course.

This truck 'n' trailer are a team, even to havin' interchangeable tires and wheels.

Just how long this handy li'l trailer keeps on bein' so handy depends on the attention she gets. She's rugged and can take about anything on land or water —**EXCEPT NEGLECT.**

She's got wheels, bearings, brakes and lights, but there aren't many other moving parts to go bad.

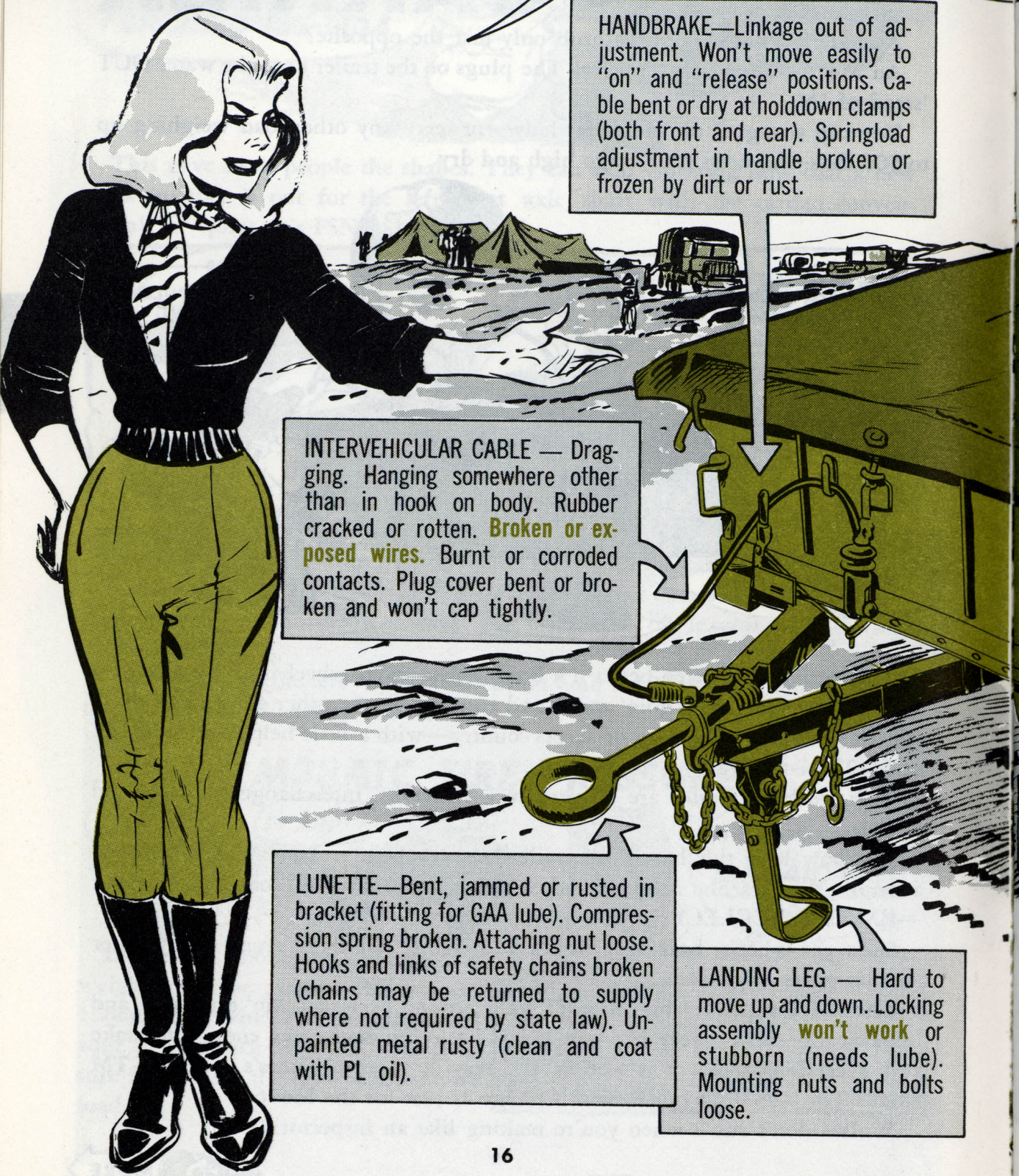
The M416 isn't very big, so a li'l walk around her—checkin' top, sides and underneath—isn't a very big job. It just has to be done often enough to make sure everything looks or is workin' the way it should. There's a whole TM (that's TM 9-2330-251-14P, with Change 2) just for the M416.

Walk—don't run—when you're making like an inspector.

MORE

You can keep your trailer in tip-top shape by catchin' all these gig points, but the ones in **GREEN** type call for action—pronto:

LOOK 'ER OVER FOR THESE



HANDBRAKE—Linkage out of adjustment. Won't move easily to "on" and "release" positions. Cable bent or dry at holddown clamps (both front and rear). Springload adjustment in handle broken or frozen by dirt or rust.

INTERVEHICULAR CABLE — Dragging. Hanging somewhere other than in hook on body. Rubber cracked or rotten. **Broken or exposed wires.** Burnt or corroded contacts. Plug cover bent or broken and won't cap tightly.

LUNETTE—Bent, jammed or rusted in bracket (fitting for GAA lube). Compression spring broken. Attaching nut loose. Hooks and links of safety chains broken (chains may be returned to supply where not required by state law). Unpainted metal rusty (clean and coat with PL oil).

LANDING LEG — Hard to move up and down. Locking assembly **won't work** or stubborn (needs lube). Mounting nuts and bolts loose.

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...AND EYEBALL 'ER TROUBLE SPOTS

CANVAS COVER — Mildewed, rotten, ripped. Soiled by grease or oil. Grommets loose. Holddown rope missing or rotten. When not in use, it should be folded neatly and stored in bottom of trailer.

BRAKES—**Won't hold.** Dragging.

TIRES—Low pressure (should be 25 PSI for highway travel, 22 PSI for cross country, 18 PSI for mud, sand or snow). **Worn to fabric** or worn unevenly. **Nails, glass, other sharp objects imbedded in tread.** Valve caps missing.

WHEELS—Bent or twisted rims. Studs or nuts loose, missing. Won't rotate freely. Brakes dragging. Bearings **poorly adjusted, worn or dry** (repack bearings after trailer has been in water above axle level).

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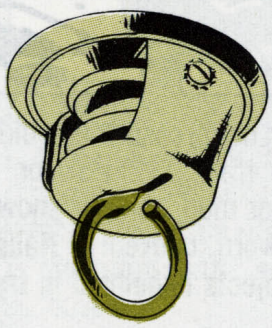
P.S. MORE

LIGHTS AND REFLECTORS—Glass broken. **Burned out lamps** or corroded lamp sockets (check out with cable hooked up to tow vehicle and inspect wiring harness back to cable for **breaks, shorts,** loose connections, rusted or broken clips).

SPRINGS — Bolts (front and rear) dry and squeaky (need lube, but not on springs). Loose "U" bolts. Broken spring leaves. **Broken center bolt or clips.**

NOW CHECK THESE DRAIN VALVES!!

DRAIN VALVE IN OPEN POSITION.



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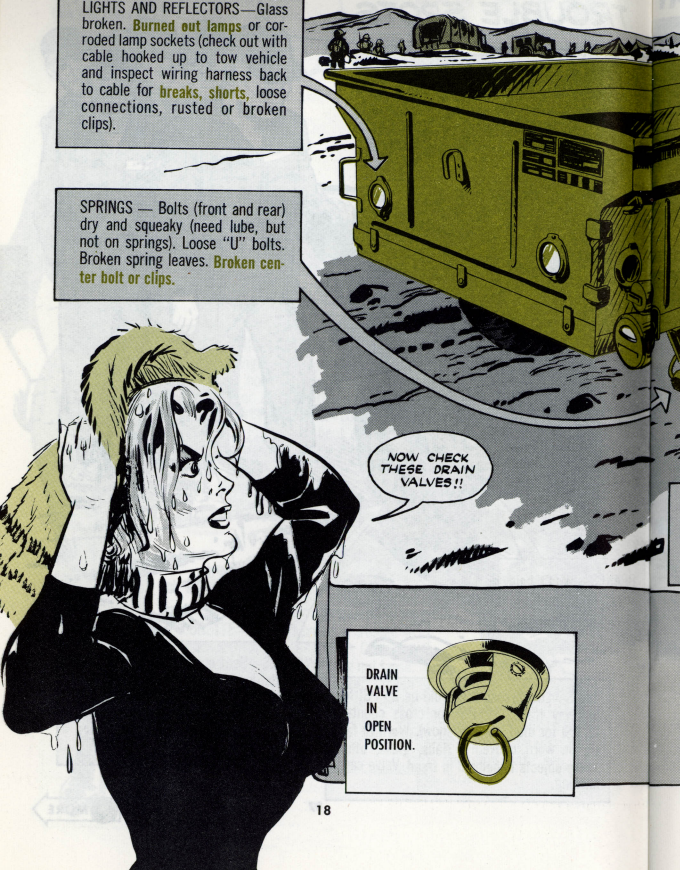
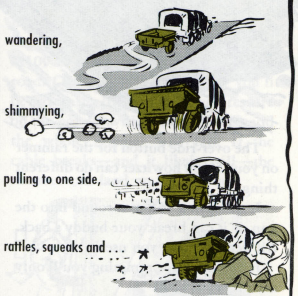
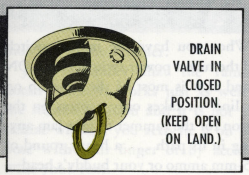


Inspection "during operation" will show up:



faulty lighting system (stop light on right side of M416 isn't supposed to work when connected to M151 truck).

DRAIN VALVES—Won't open completely or **won't close tightly.** Assembly rusty or bent or **plugs deteriorated** (replacements can be ordered by FSN 2510-732-8336).



Even if drain plugs are in good shape, they won't keep out water if you forget to close 'em. Just a simple twist'll seat 'em. They gotta be kept open on land, tho, to let rain or other water out. There's no tailgate, so this trailer can't be parked at a tilt to drain.

END

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Inspection "during operation" will show up:

wandering,

shimmying,

pulling to one side,

rattles, squeaks and . . .

faulty lighting system (stop light on right side of M416 isn't supposed to work when connected to M151 truck).

DRAIN VALVE IN CLOSED POSITION. (KEEP OPEN ON LAND.)

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P.S. END

PANIC WISE . . .

YOU'VE GOT TO WATCH

The over-ride button for the rammer on your M109 howitzer can do different things.

It can ram a 155-mm round into the gun or it can break your buddy's back. All depends how you use it.

If you use it for ramming you'll only need it when . . .

1. The micro switches on the rammer tray won't work.

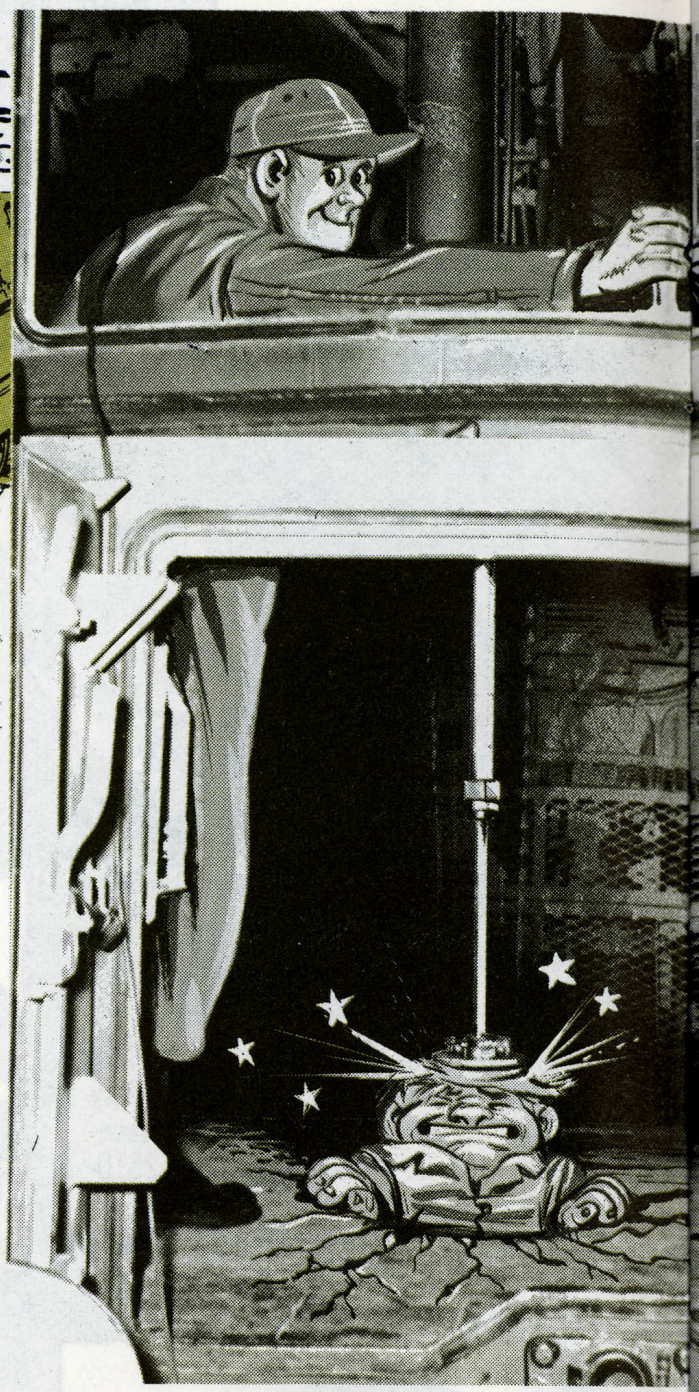
or

2. The rammer control box fails.

or

3. You need to complete a ramming cycle without unlatching the trays so you can start a new cycle.

If you use it any other time you're likely to hurt yourself or somebody else. An MWO to put a guard over the rammer button is in the works.



When you have the master switch and the turret power switches both ON —and that is most of the time up on the line—it takes only a press on the button for the rammer to ram-jam anything in its path . . . a heavy round of 155-mm ammo or your buddy's head—

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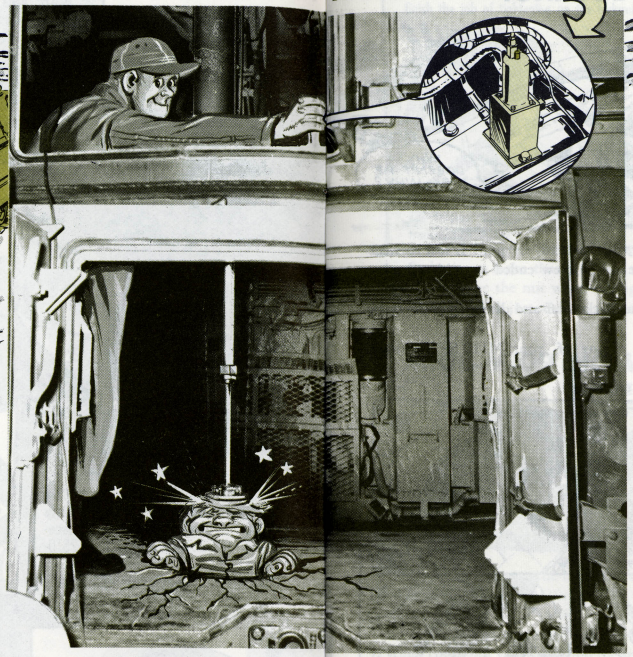

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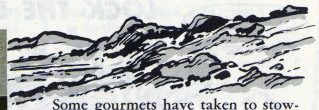
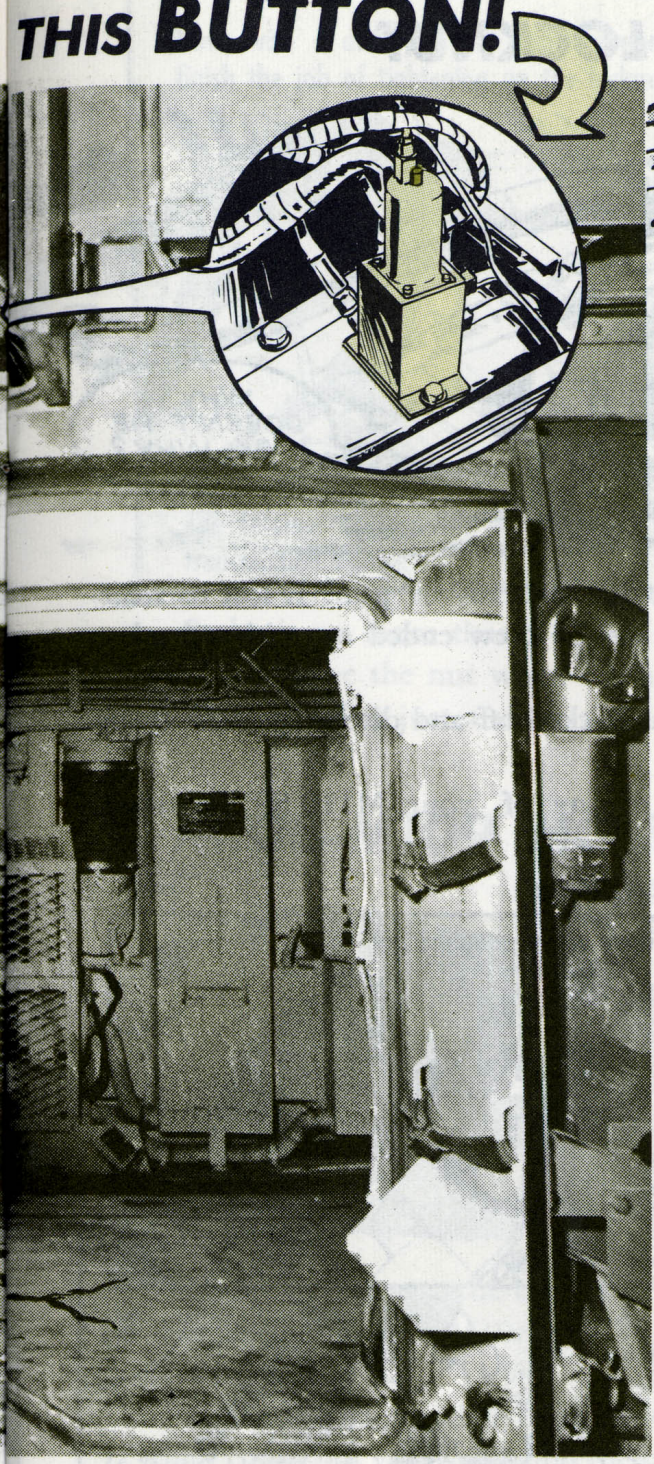
Just remember that the rammer doesn't care. It works just as well in the stowed position and it is not particular whether you activate it on purpose with your finger or by accident with your foot.



Some gourmets have taken to stowing a case of C rations on the shelf behind the door. All connoisseurs of fine food can understand this, but if a corner of the case presses down on the button the rammer will ram when you turn on the turret power switch.

Another thing. . . . The rear tray handle on the rammer looks like a handy grip to hang on to when your M109 is going over a rough stretch of road. Only, don't do it Dad or you'll be sad. Just a little bit of down pressure on the handle will release the lock and the whole rammer will fall. If the cable breaks—and it likely will—the rammer can land on top of you.

One last thing about the rammer. . . . Don't press the over-ride button until you get a reading of 925 (PSI) or over on the hydraulic pressure gage. If your reading is OK and it won't ram after you hold down on the button for 3 seconds, call a mechanic to check out the system because something is wrong.



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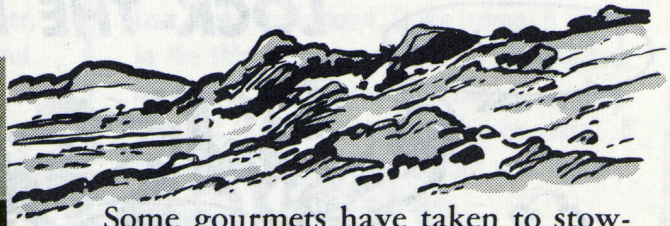

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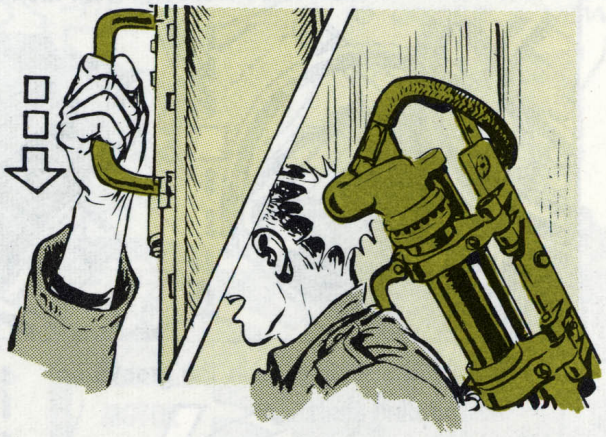
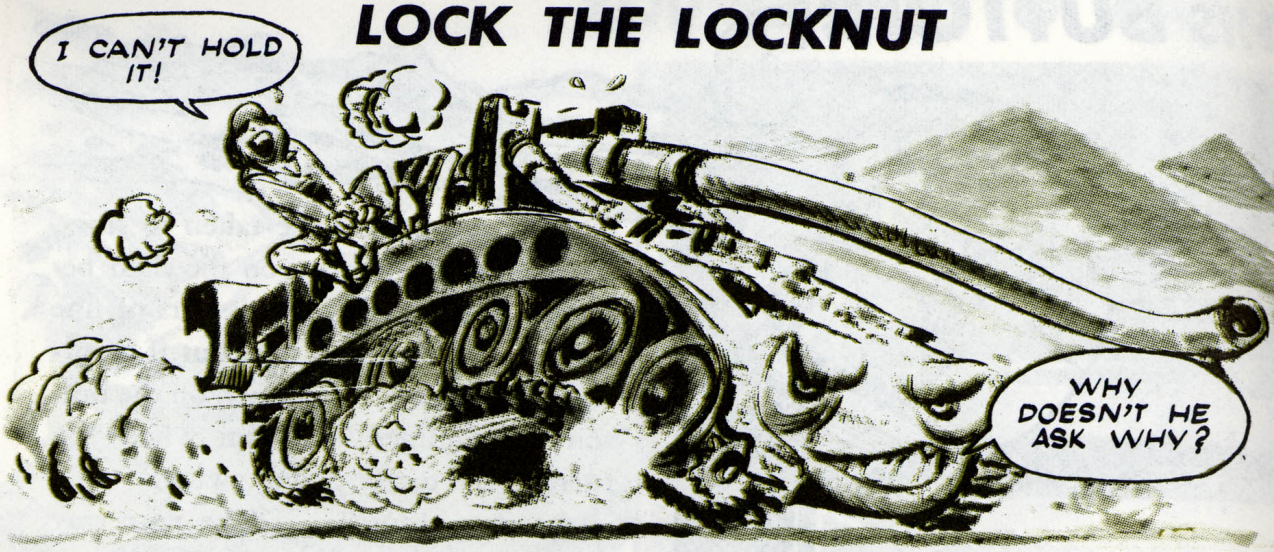
Another thing. . . . The rear tray handle on the rammer looks like a handy grip to hang on to when your M109 is going over a rough stretch of road. Only, don't do it Dad or you'll be sad. Just a little bit of down pressure on the handle will release the lock and the whole rammer will fall. If the cable breaks—and it likely will—the rammer can land on top of you.



One last thing about the rammer. . . . Don't press the over-ride button until you get a reading of 925 (PSI) or over on the hydraulic pressure gage. If your reading is OK and it won't ram after you hold down on the button for 3 seconds, call a mechanic to check out the system because something is wrong.

LOCK THE LOCKNUT

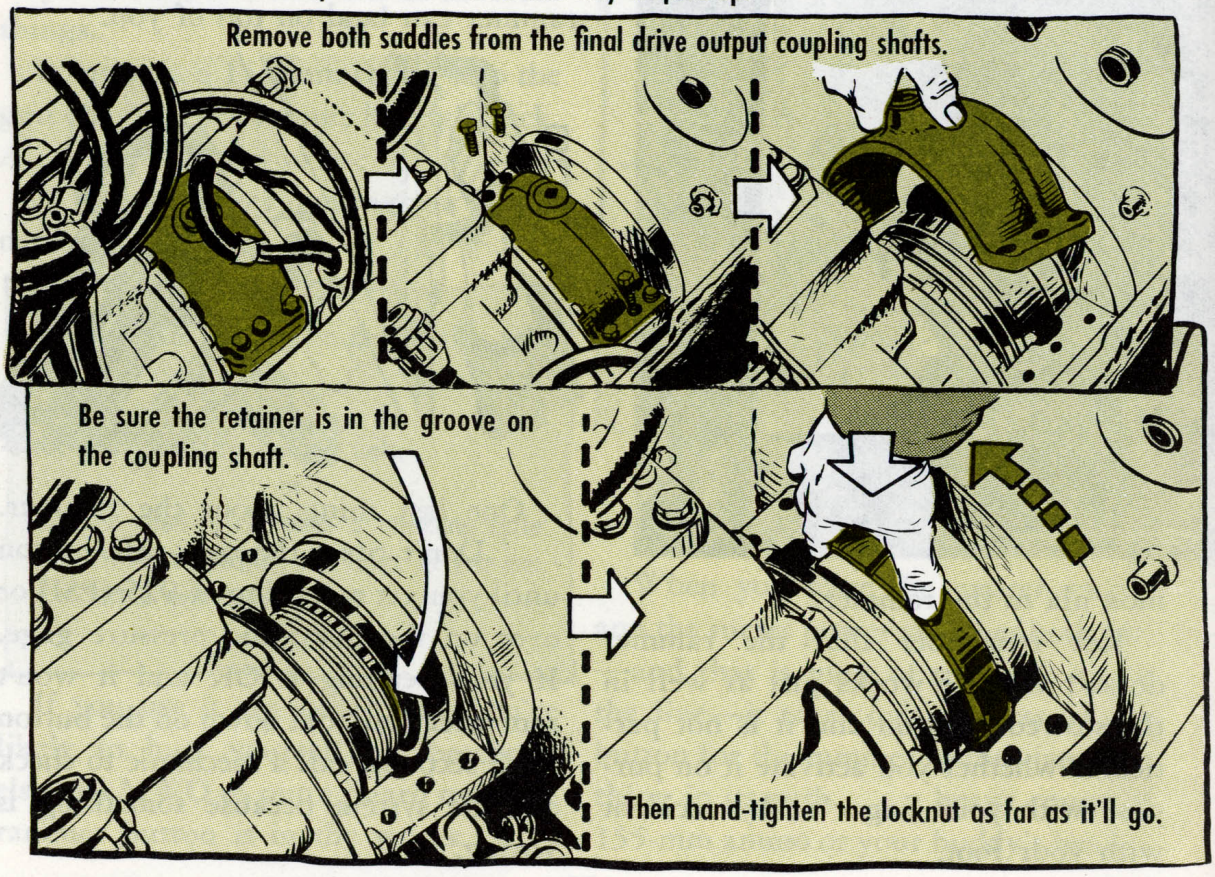


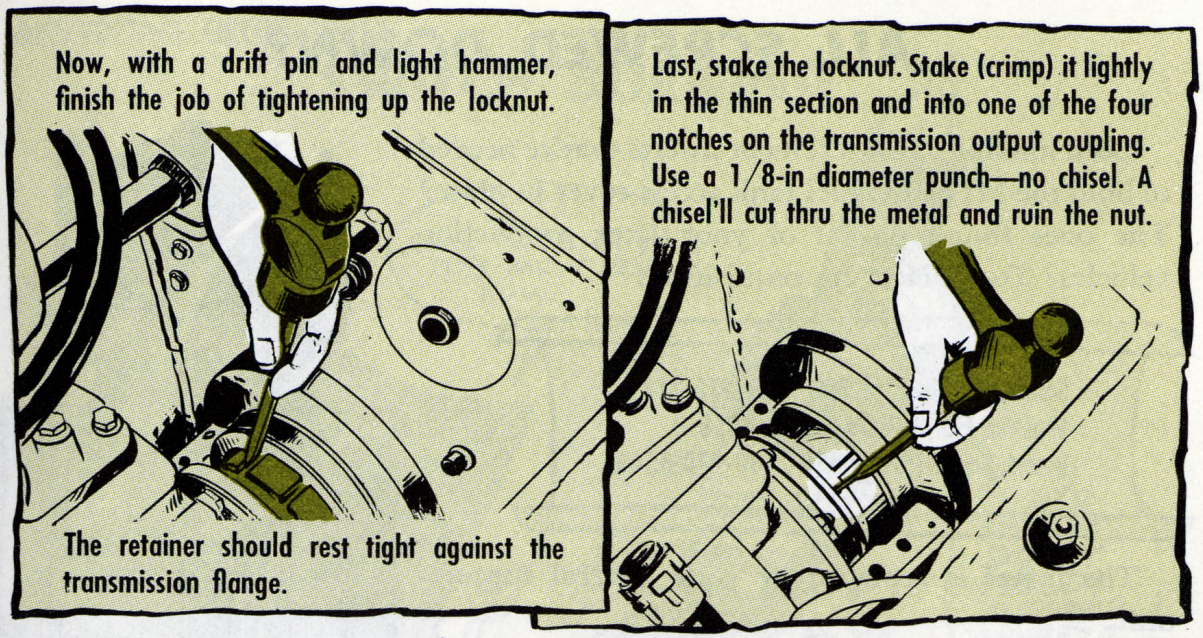
Did you hear about the freak accident with an M107 SP gun? It lost its steering, ran up a bank and tipped over. One of the crew ended up with a broken leg.

Seems the final drive coupling locknut backed off and disengaged the transmission from the final drive shaft.

Besides the M107 , it could happen to any of your M110 SP howitzers and M578 VTRs.

So-o-o-o, here's the way to make sure the two stay coupled up:

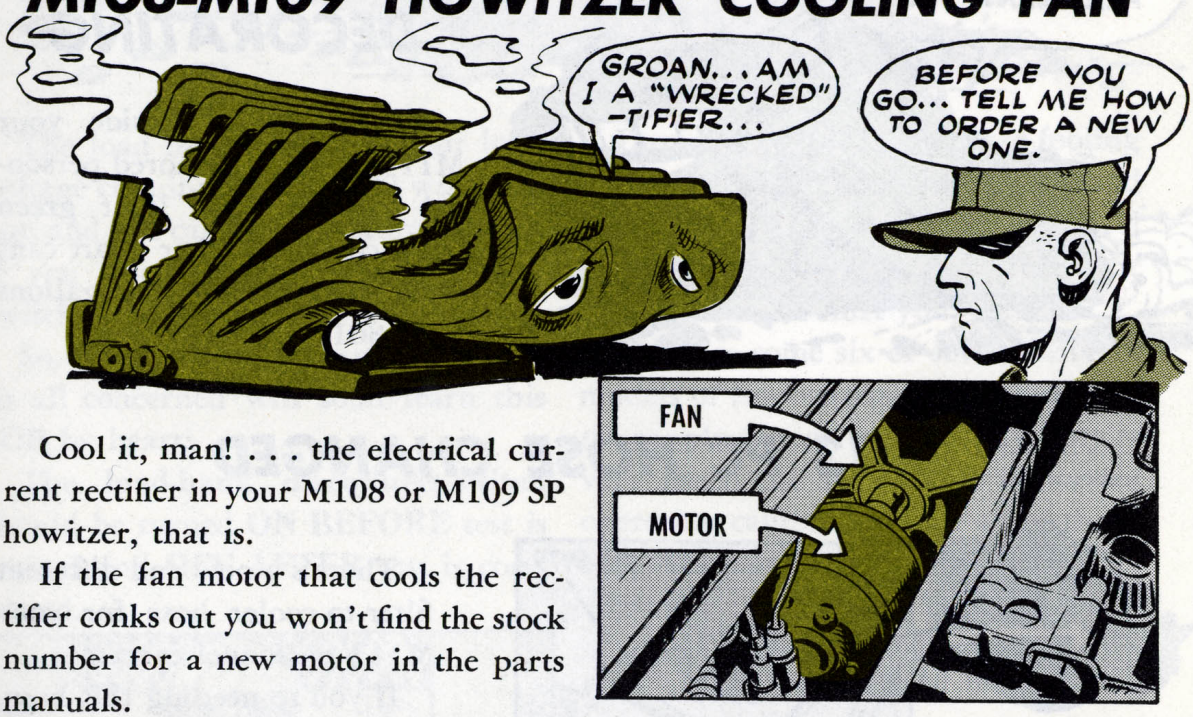




Stake it no more than 1/32-in deep (thickness of a dime). Too deep and you'll damage the nut when taking it off.

The job takes just a short time to do. Get yours done—now.

M108-M109 HOWITZER COOLING FAN



Cool it, man! . . . the electrical current rectifier in your M108 or M109 SP howitzer, that is.

If the fan motor that cools the rectifier conks out you won't find the stock number for a new motor in the parts manuals.

But don't cry . . . you can get it with a written justification explaining how come the one you had went kaput.

Order it as Motor, rectifier, blower, FSN 6105-987-9901, (Part Number 10930399). This'll get you the motor, which costs $19.25.

If you need the fan, order it as Fan, Commercial, FSN 6150-850-9332, (Part Number 8720053) for $3.45.

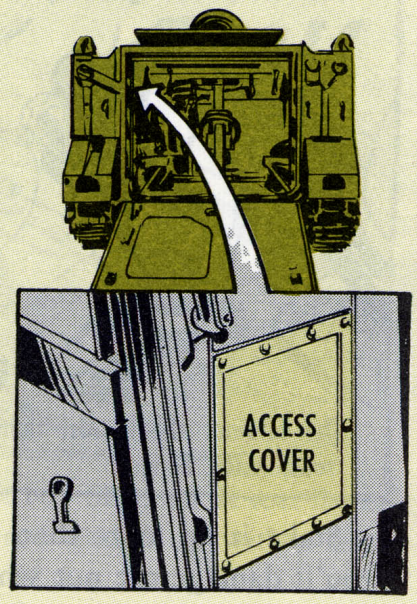
ALL SCREWED DOWN?

Been missing a few screws or inserts that're needed to hold the M113 PC fuel tank access cover in place? The ones found on all of your later production vehicles? To replace 'em requisition:

Screw, Cap, Hex Hd, FSN 5305-576-2121.
Washer, Flat, FSN 5310-809-4058.
Insert, Screw Thread, FSN 5340-990-8543.

The insert is replaced by your general support unit.

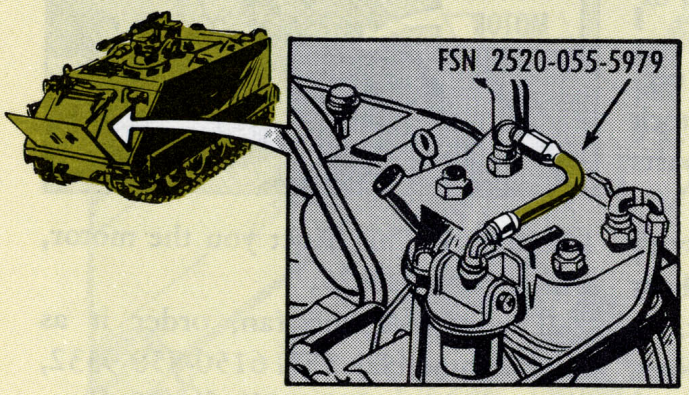
You'll find these hardware items in TM 9-2300-224-20P/3, Part I (Nov 64) on page 189.



INTERIOR DECORATING

Touch-up time inside your M113 or M114 armored personnel carrier? That light green paint comes in either quart cans FSN 8010-598-5648 or gallons FSN 8010-527-3197.

M113 PC HOSE CHANGED

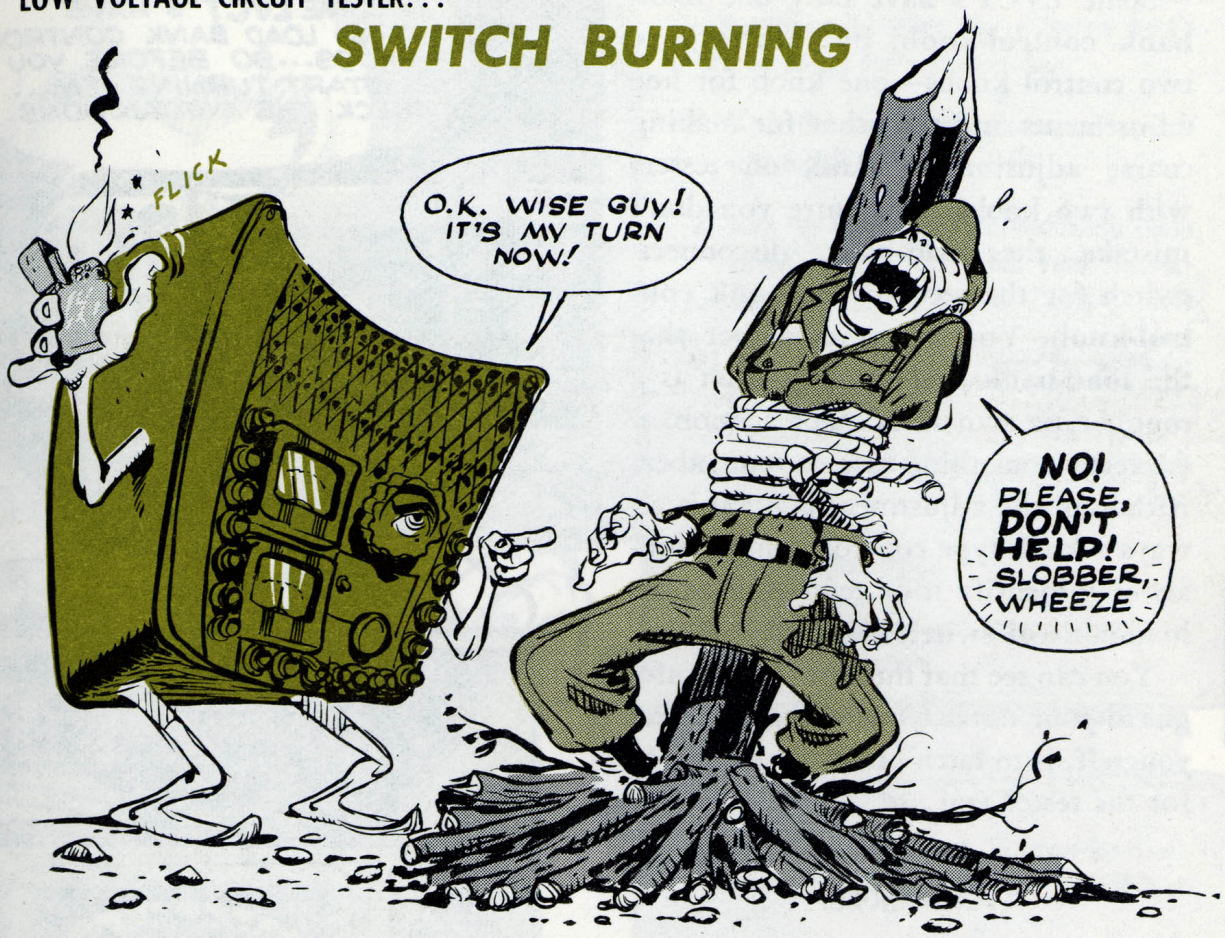


There's a new and different filter-to-cooler hose for your M113 personnel carrier.

If you're needing this hose, ask for it as Hose, Assembly, Rubber, FSN 2520-055-5979. The supply depots know all about the new hose so have your support get it for you.

LOW-VOLTAGE CIRCUIT-TESTER...

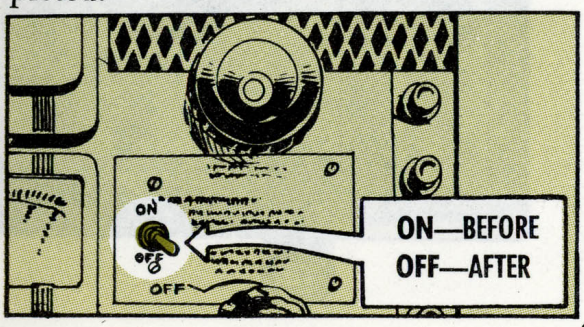
SWITCH BURNING



The load bank switch on your low-voltage circuit-tester (LVCT) will burn out, and you can get well scorched, too, if you open or close the load-bank switch during a test.

So, make a note somewhere handy so all concerned will soon learn this SOP by heart:

The **load-bank disconnect-switch** should be turned **ON BEFORE** test is started and **OFF AFTER** test is completed.



During some tests, you get to fooling with a fairly high flow of current, and if you open or close the circuit you'll get a strong arc that can wreck the equipment, and hurt you, too.

There're some six or seven different models of low-voltage circuit-testers in the supply system, but basically, they're very much the same. This important operating caution goes for all of them. (All these models come under FSN 4910-092-9136.)

WORKING THE LOAD BANK

The only safe adjustment you can make on an LVCT during a test (while the current is flowing), is with the variable resistors (the load-bank control-knobs and the field rheostat).

PS MORE

Some LVCT's have only one **load-bank control-knob**, but others have two control knobs—one knob for fine adjustments and the other for making coarse adjustments. And, on testers with two knobs make sure you don't mistake the load-bank disconnect-switch for the second **load-bank control-knob**. You gotta remember that the **load-bank disconnect-switch** is a toggle-type switch. It's not a knob.

Here's something else to remember: Although the adjustment control is always a knob-type control, some manuals may identify it or refer to it as the **load-control switch assembly**.

You can see that the best way to safeguard your tester, your equipment and yourself, is to latch on to the right TM for the tester you use.

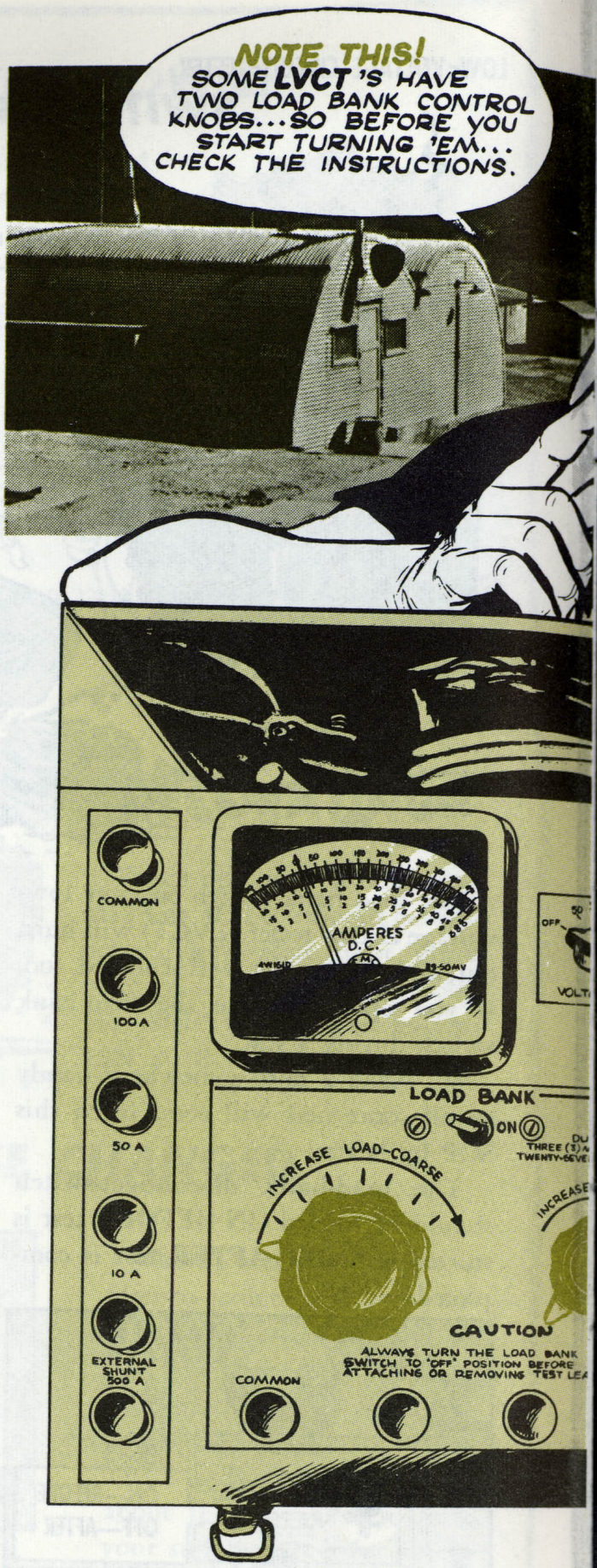
LVCT MANUALS

Each LVCT is also covered by a manufacturer's manual. And, along with all that scoop on your LVCT's, the steps on the next page should help ease your switch-burning problems.

TM 9-4910-401-12 (Nov 62) and TM 9-4910-401-20P (Feb 62) cover LVCT model 10308, Auto Test Inc., and model TV 100, by the Atomic Engineering Corp.

And, TM 9-4910-402-12 (Jul 62) and TM 9-4910-402-20P (Feb 62) cover model 1060, Electro Mechanism Corp.

Incidentally, a change to TM 9-4910-402-12 is in the mill to add instructions for the Ram Meter Inc. Model PN 62F151 and Austin Continental Industries Inc. Model 1060A.



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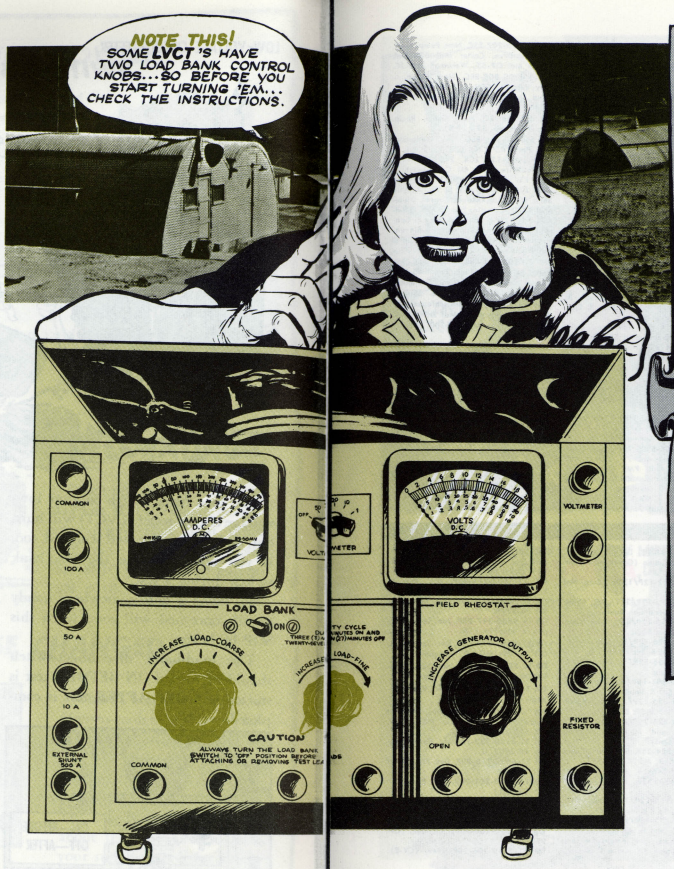


TO SET UP

Regardless of what you're testing here's how to set up for safe operation:

1. Place the **load-bank disconnect-switch** (the toggle switch) on **OFF.**
2. Turn the **load-bank control-knob** (both knobs, if your model has two) counter-clockwise all the way to **ZERO** or **OFF.**
3. Hook up the necessary lines for whatever test you're pulling.
4. Place the **load-bank disconnect-switch** on **ON.**
5. Start up the engine.
6. Adjust the **load-bank control-knob** per the TM instructions.

TO CUT OUT

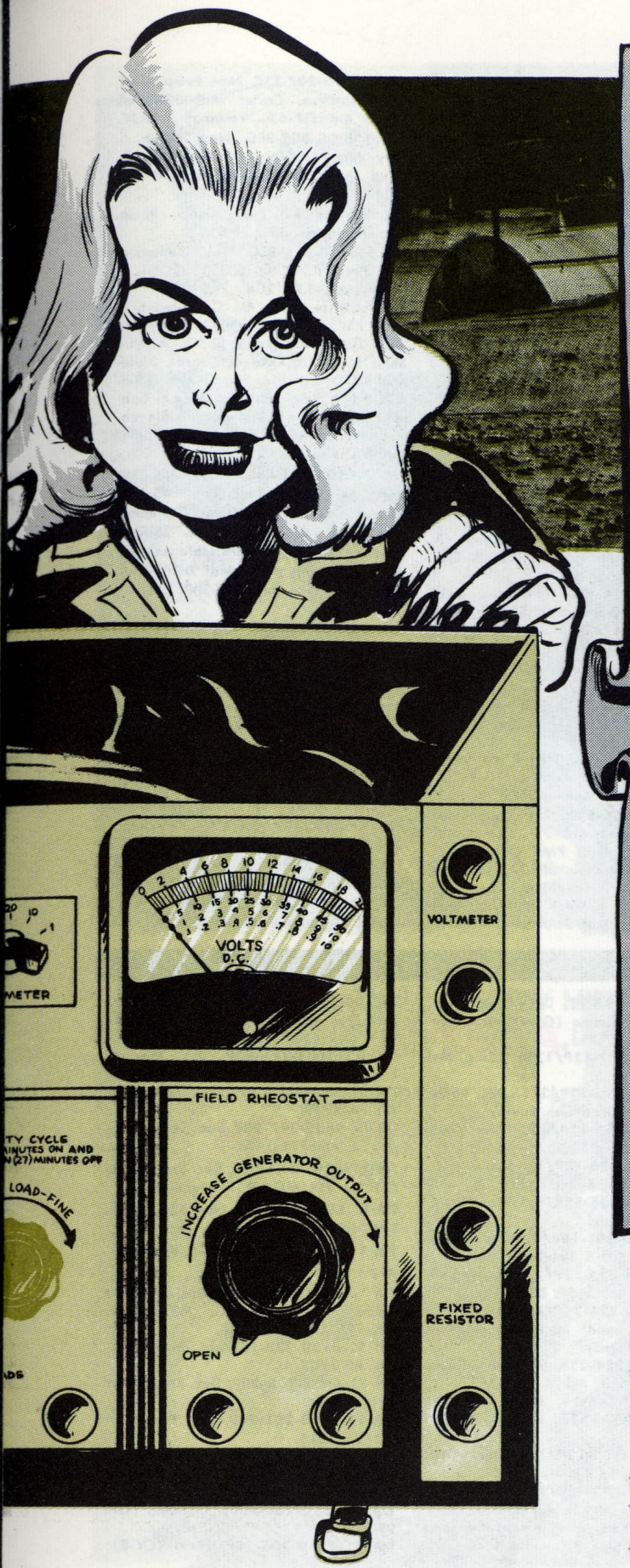
1. Turn the **load-bank control-knob(s)** counter-clockwise all the way to **ZERO** or **OFF.**
2. Stop the engine.
3. Throw the **load-bank disconnect-switch** to **OFF.**
4. Disconnect the lines.

In addition to not opening or closing a circuit, you're not to disconnect or connect any wires while you've got current flowing.

KNOB TURNING

Forcing or rough handling is not for any of your LVCT's knobs. Some testers are made with laminated graphite plates and forcing a knob in the "OFF" position can cause these plates to crack or break out completely. When this happens the LVCT's resistance values are way off.

END



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END

Here's the latest list of available Equipment Serviceability Criteria TM's. Check it out—if you need any—get the word to your Pubs section for prompt action.

TM 5-1011-ESC, Nov, Drier, Aggreg: 1 Drum-Barber-Greene Mdl 837.

TM 5-1376-ESC, Nov, Feed, Aggreg: Chn Drvn; Barber-Greene Mdl 815.

TM 5-2400-202-ESC, Nov, Tractr, Whld, Cat Mdl DW20M & MRS Mdl 190.

TM 5-2420-201-ESC, Nov. Tractr, Whld, (MRS Mdl 100-4 x 4, Series B).

TM 5-3800-204-ESC, Nov, Paving Mach, Bitum Matl, Barber-Greene Mdl 879A & Barber-Greene Mdl 879B.

TM 5-3800-205-ESC Nov, Aug, Earth, Skid Mtd, Buda Mdl Y-1; Texoma Enterprises, Jacques Mdl TJ254, Jacques Mdl K-254; Hgwy Trlr Mdl HDM-S.

TM 5-3800-206-ESC, Nov, Crush, Jaw: GED, Whl MTD; Iowa Mdls AB-1424-SP-15T & AB-1524-SP-15T.

TM 5-3800-207-ESC, Nov, Dist, Bitum Matl, Tnk Type, Etnyre Mdl MX Style RE, Etnyre Mdl MXRE D-30, Gen Stl Tnk Mdl SDC, Stand Stl Mdl 424-56-CE61.

TM 5-3800-211-ESC, Nov, Crane-Shvl, for Bas Unit, Trk Mtd, 10 T, Bay City Mdl 150M; Thew Shvl Mdl E-6610; Unit Mdl 1014CE.

TM 5-3800-212-ESC, Nov, Crane-Shvl, Crawl MDT; 10 Ton, GED, Amer Hoist Mdl 375-BC, Baldwin-Lima-Hamilton Mdl 34 Cab Crwd, Baldwin-Lima-Hamilton Mdl 34 Chain Crwd, Bucyrus-Erie Mdl 22-B, Koehring Mdl 304, Koehring Mdl 304 Winterzd, Unit Mdl 1020 Yd, Thew-Shvl Mdl TL-25K.

TM 5-3800-214-ESC, Dec, Sweep, Roty, Tow, GED, Grace Mdl MB105E; Little Giant Mdl ES-100, Little Giant Mdl ES-100A, Mars Mdl MP38W, Meili-Blumberg Mdl 53M, Spencer Mdl MS-1.

TM 5-3800-215-ESC, Nov, Roll, Motrzd: Gas Drvn; Buffalo Springfld Mdl KT-16B, Galion Mdl T5G.

TM 5-3800-220-ESC, Nov, Kettle, Heat, Bitum, Mil Spec K-410; Littleford Mdl 750-US, Rosco Mdl KO.

TM 5-3800-216-ESC, Nov, Roll, Mtrzd, Buffalo Springfld Mdl KX-16-C2, Galion Mdl 3T9G.

TM 5-3800-217-ESC Nov, Roll, Mtrzd; Gas Drvn; 10 T; Galion Mdl Ch, Galion Mdl Ch Rod-O-Mat, Buffalo Springfld Mdl VM-31C.

TM 5-3800-218-ESC, Nov, Spread, Aggreg, Tow, Etnyre Mdl C8M1 Gar Wood Mdl M5-8FT, Good Roads Mdl Champ Handy Grace Mdl S.

TM 5-3800-219-ESC, Nov, Kettle, Heat, Bitum, Gas Drvn, Trlr Mtd, 165 Gal, Aeriol Mdl 7ZPSA, Aeriol Mdl 7ZPSA9; Littleford Mdl 84-HD-3.

TM 5-3800-221-ESC, Nov, Heat, Bitum: Gas Eng Drvn: Trl Mtd, Steam: 3 Car Heat Cap (Bros Mdl SG-45T) (Bros Mdl SG-52TA) (Cleaver-Brooks Mdl DS).

TM 5-3800-222-ESC, Nov, Crush & Screen Plant, 75 T, P/H, Dies & Elec Drvn.

TM 5-3800-224-ESC, Nov, Load, Bukt Type, Barber-Greene Mdl 82A, Barber-Greene Mdl 82AG, Haiss Mdl 77PC.

TM 5-3895-231-ESC, Nov, Graduation Contl Unit, Aggreg: Barber-Greene Mdl 866.

TM 5-3900-200-ESC, Nov, Conveyor Belt, 300 Tons P/H, Barber-Greene Mdl 374.

TM 5-4300-203-ESC, Nov, Pump Recip, Gasoline Drvn, 100 GPM at 10 Ft Hd, Carter Mdl 40B, Carver Mdl D4.

TM 5-4300-206-ESC, Nov, Pump Cent, Gas Drvn, Barnes Mdl 7M, Barnes Mdl 700, Carter Mdl 7M, Carter Mdl 7MCW-2, Carver Mdl KN2LC, Gorman Rupp Mdl 3201, Jaeger Mdl 2 APS-1, Red Jckt Mdl 4 MAG, Red Jckt Mdl 7M, Red Jckt Mdl 7MAG.

TM 5-4300-207-ESC, Nov, Pump, Cent, Gasoline-Drvn, Carter Mdl 504-CW, Reiner Mdl GP-55, Weinman Mdl JC.

TM 5-4300-209-ESC, Nov, Comp, Roty; Air; 125 CFM, 100 PSI, Ingersoll-Rand Mdl GER-125, Joy Mdl RP125 GC40MS-3.

TM 5-5403-ESC, Nov, Comp, Recip, Air, Harris Mdl 53-121 B.

TM 5-6100-210-ESC, Nov, Generator Set, Port. 45 KW, 120 V, 3 PH, 3 Wire Serv, 120/208, 240/416 V, 3 PH, 4 Wire Serv, 60 C, Convert to 37.5 KW, 120 V, 3 PH, 3 Wire Serv, 120/208, 240/416 V, 3 Ph, 4 Wire Serv, 50 C, Liq Cooled; Consol, Diesel Mdl 4070; Cummins Eng Co Mdl JSGA-601-45; Kurz & Root Mdl Alex I; Consol Diesel Mdl 4150; Stewart & Stevenson Mdl 54400; Hollingsworth Mdl JHDW45A.

TM 5-6100-211-ESC, Nov, Gen Set, Port, Skid Mtd, Dies Eng, 45-KW, Consol Dies Elec Mdl 4060; Cummings Eng Mdls JSGA-601-45 & JS-6-G, 45-KW, 400-Cyc; Harnischfeger Mdl 400-A; Hollingsworth Mdl JHDX-45A; Stew & Stevnsn Mdls 26200, 28100, 52300.

TM 5-6100-213-ESC, Nov, Gen Set, Port, 60-KW, AC, 120/208 & 240/416 V, 3 Ph, 4-Wire Svc, Convert to 50-KW, 120 V, 2 Ph, 3-Wire Svc, 120/208 & 240/416 V, 3 Ph, 4-Wire Svc, 50 Cyc, Liq Cld, Full Incl by Hous, Wntrzd, Cummings Eng Mdl JSCA-601-60 & Cummings Mdl JS-6-G (60-KW-AC).

TM 5-6100-220-ESC, Dec, Gen Set, Port, PU-402/M; 15 KW, 120/240, 208/416 V, 3 Ph, 60 Cyc.

TM 9-2320-224-ESC, Dec, Carr, Comd and Recon: Armd M114 and M114A1.

TM 55-1930-205-ESC, Nov, Opertr, Amph, Lighter, 5 T (LARC-V).

A selected list of recent publications of interest to Organizational Maintenance Personnel. This is a list compiled from recent Adjutant General's Distribution Center Bulletins. For complete details see DA Pam 310-4 with latest changes.

TECHNICAL MANUALS

TM 1-1H-23C-1, C2, Nov, (OH-23).

TM 1-1H-23C-2, C4, Nov, (OH-23).

TM 1-11B29-3-8-3, Dec, Organ, Other.

TM 5-3810-227-15, Dec, Crane-Shvl, Bas Unit, Trk Mtd, 6x6 (Amer Hoist & Derrick Mdls) Mdl 2360 (Non-Winterzd) Mdl W2360 (Winterzd).

TM 5-3825-221-15, Dec, Dist, Wtr Tnk Type, Gas Drvn, Trk Mtd (Macleod Mdl W15A).

TM 5-4120-220-25P, Dec, Air Cond; Air Cooled 18,000 BTU; 115/208V (Ellis & Watts Mdl A18).

TM 5-4210-205-12, Dec, Trk, Fire Fghtg, 400 Gal Wtr Tnk, 40 Gal Foam Chem Tnk (Ward LaFrance Mdl M44A1WLF).

TM 9-1005-229-12P, Dec, Submachine Guns, Cal .45, M3 and M3A1.

TM 9-1005-237-15P, Dec, Bayon-Knife M4; M5; M5A1; M6; M7., W/ Bayon-Knife Scabb M8A1.

TM 9-1340-204-12, Dec, Little John, Op & Maint, Ammo (Other than Atom Wpns).

TM 9-1410-302-12P/1, Dec, Serg, Msl Op & Maint.

TM 9-1430-250-12P/3/1, Dec, Nike-Herc (Imp), Grnd Con Equip.

TM 9-1430-250-12P/4/1, Dec, Nike-Herc, Grnd Con Equip.

TM 9-1430-376-12P/1, Jan, Persh, Grnd Hdlg, Spt & Svc Equip.

TM 9-1430-505-12P/1, Dec, Hawk, Grnd Con Equip.

TM 9-1440-301-12P/1, Dec, Serg, Grnd Hdlg, Spt & Svc Equip.

TM 9-1450-375-12P/1, Jan, Persh, Grnd Hdlg, Spt & Svc Equip.

TM 9-2300-224-20P/3, Nov, M113 (Gasoline) and M113A1 (Diesel) Carr, Veh Family.

TM 9-2320-224-25P, Dec, Carr, Camd & Recon: Armd, M114/M114A1.

TM 9-2330-246-14, Nov, Van Elec M348A1, M348A2C, M348A2D, M348A2F.

TM 9-4935-253-12P/1/1, Dec, Nike-Herc (Imp), Test Equip (Ord).

TM 9-4935-253-12P/2/1, Dec, Nike-Herc (Imp), Test Equip (Ord).

TM 10-500-82, Jan, Airdrop of Sup & Equip, Rigg M116, Amph Crgo Carr.

TM 10-3930-238-20P, Dec, Trk, Lft, Fork Gas, 6000 Cap, Army Mdl MHE-193, Baker Mdl FJF-060.

TM 11-5805-211-25P, Dec, Manual Telephone AN/MTC-7.

TM 11-5805-243-20P, Dec, Telephone Set TA-1/PT.

TM 11-5805-347-20P, Jan, Term, Telephone AN/FTA-15A.

TM 11-5815-210-25P, Dec, Spec Tools, List for AN/MGC-9 Teletypewriter.

TM 11-5820-353-25P, Nov, Spec Tools, List for AN/MRR-8 Radio Recvr.

TM 11-5820-398-35P, Dec, Radio Repeater Set AN/MRC-54.

TM 11-5965-235-25P, Dec, Headset Micro Kits MK-400/G, MK-401/G, MK-525/G, MK-526/G.

TM 11-6130-233-12, Dec, Power Supply PP-2953/U.

TM 11-6625-218-20P, Dec, Freq Meter AN/TSM-16.

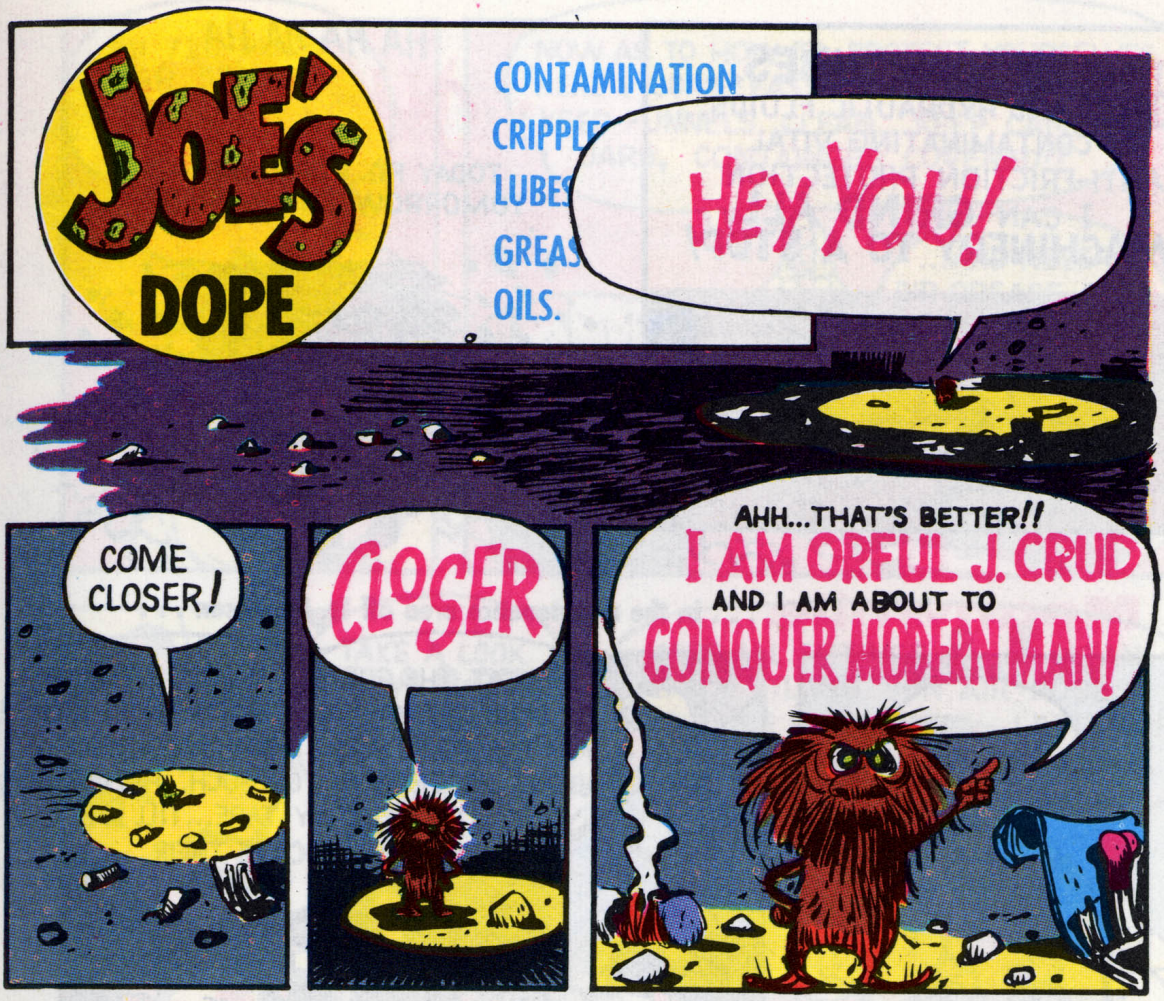
TM 11-6730-201-20P, Dec, Projection Set AS-2(1).

TM 55-375, Dec, Military Driving.

TM 55-1400-300-10-1, Jan, Serg, Grnd Hdlg, Spt & Svc Equip.

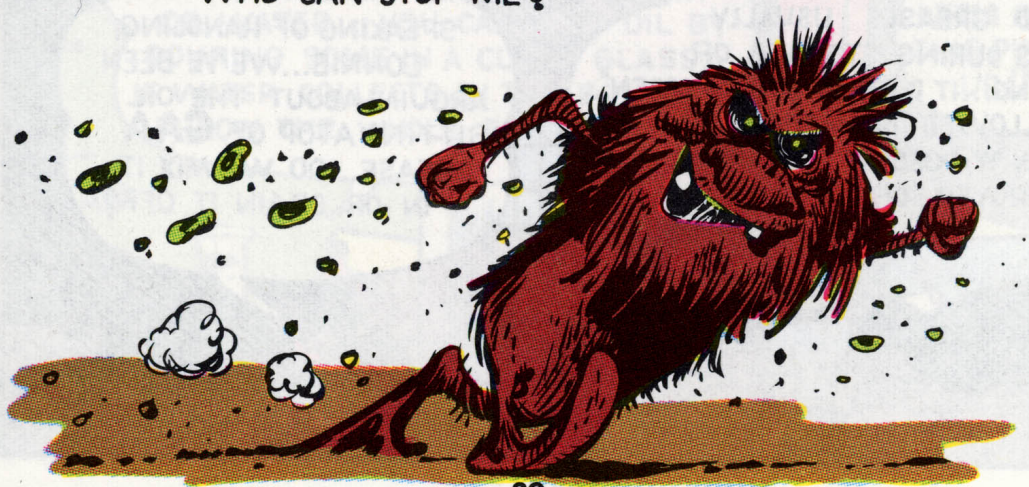
TM 55-1510-206-10CL, C4, Dec, (CV-2).

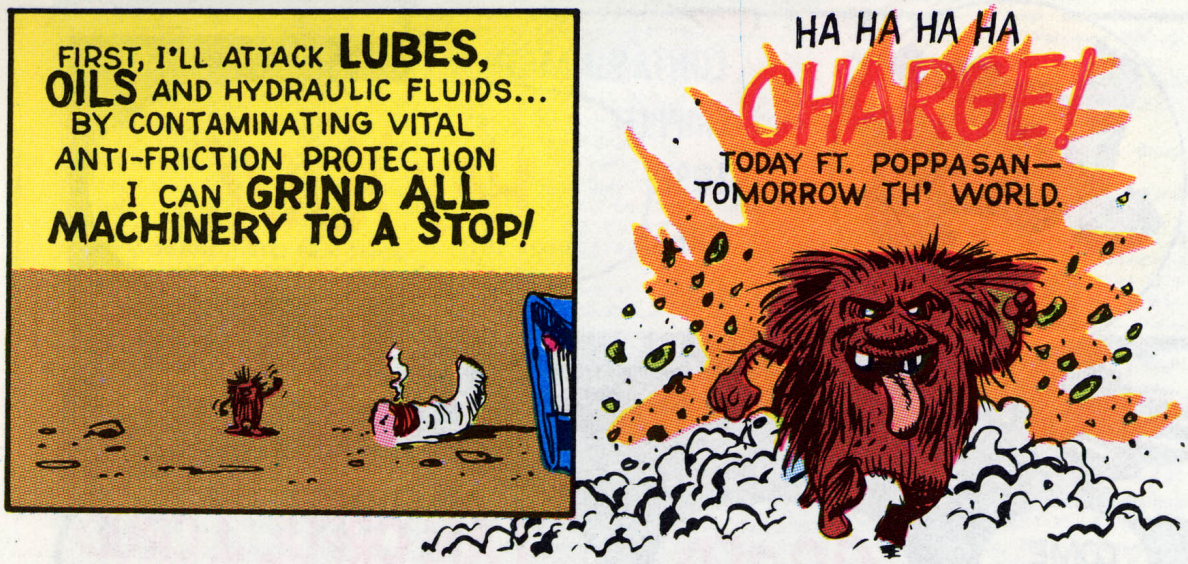
TM 55-1510-206-20P, Nov, (CV-2).



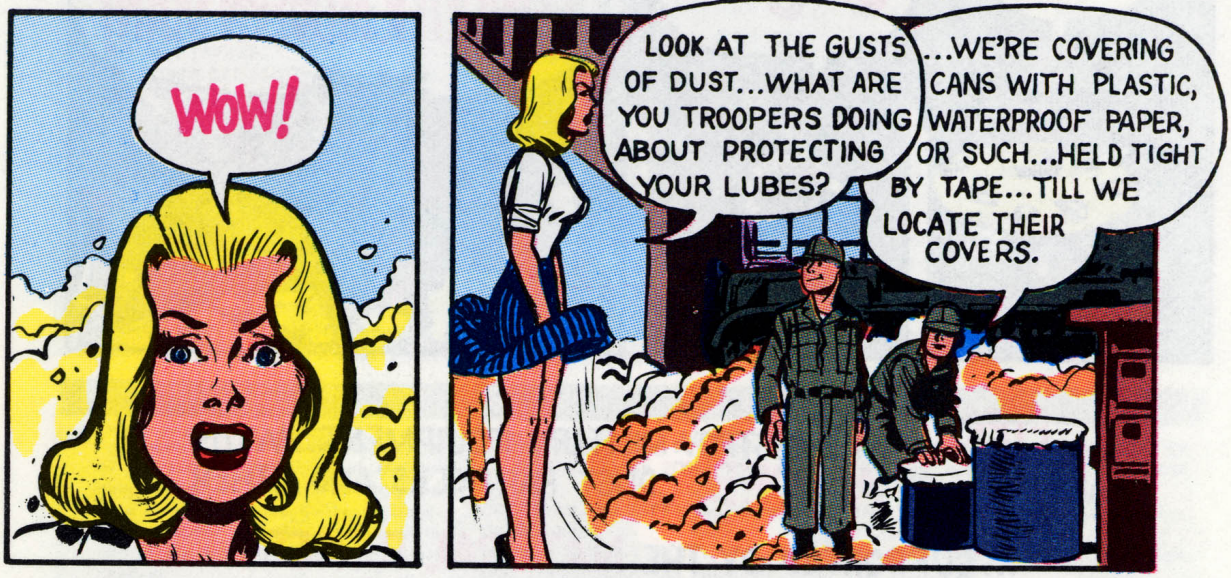
FIRST... I WILL DESTROY MILITARY EQUIPMENT... WITH AN ARMY OF AMOEBA, DUST PARTICLES AND OTHER CRUD...

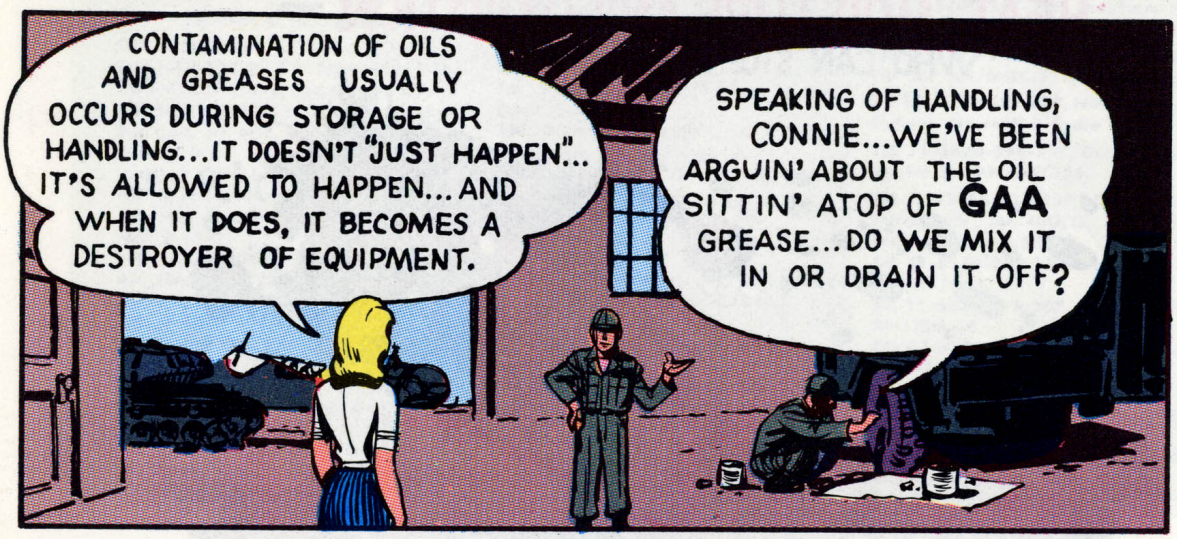
...SUPPORTED BY THE NATURAL FORCES OF HEAT, MOISTURE AND OXIDATION — WHO CAN STOP ME?

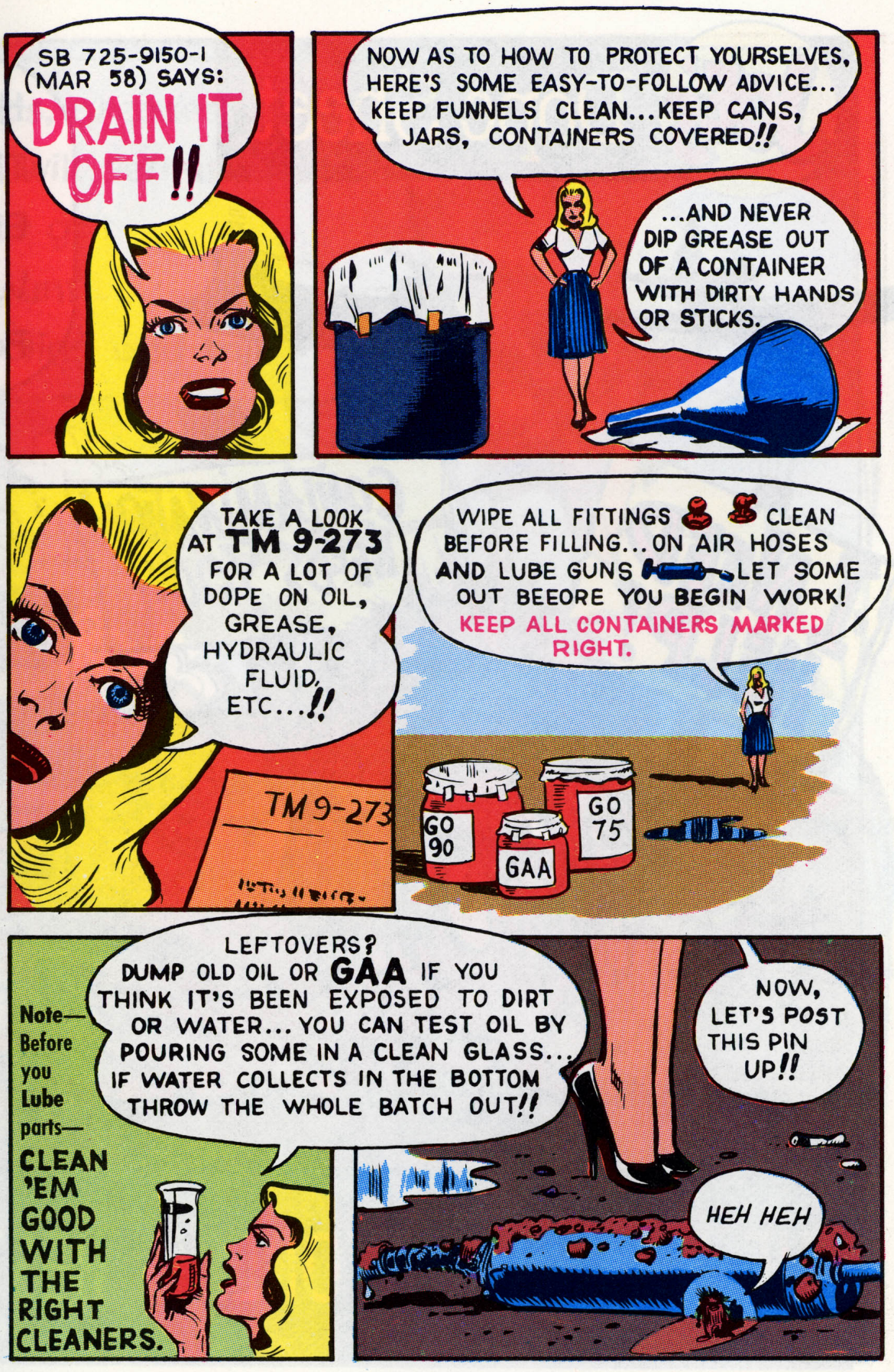




Meanwhile . . . in the maintenance area off Ft. Poppasan . . .






SB 725-9150-1 (MAR 58) SAYS:
DRAIN IT OFF!!
NOW AS TO HOW TO PROTECT YOURSELVES, HERE'S SOME EASY-TO-FOLLOW ADVICE... KEEP FUNNELS CLEAN...KEEP CANS, JARS, CONTAINERS COVERED!!
...AND NEVER DIP GREASE OUT OF A CONTAINER WITH DIRTY HANDS OR STICKS.
TAKE A LOOK AT TM 9-273 FOR A LOT OF DOPE ON OIL, GREASE, HYDRAULIC FLUID, ETC...!!
TM 9-273
WIPE ALL FITTINGS CLEAN BEFORE FILLING...ON AIR HOSES AND LUBE GUNS LET SOME OUT BEEORE YOU BEGIN WORK!
KEEP ALL CONTAINERS MARKED RIGHT.
GO 90
GAA
GO 75
LEFTOVERS?
DUMP OLD OIL OR GAA IF YOU THINK IT'S BEEN EXPOSED TO DIRT OR WATER... YOU CAN TEST OIL BY POURING SOME IN A CLEAN GLASS... IF WATER COLLECTS IN THE BOTTOM THROW THE WHOLE BATCH OUT!!
Note— Before you Lube parts—
CLEAN 'EM GOOD WITH THE RIGHT CLEANERS.
NOW, LET'S POST THIS PIN UP!!
HEH HEH

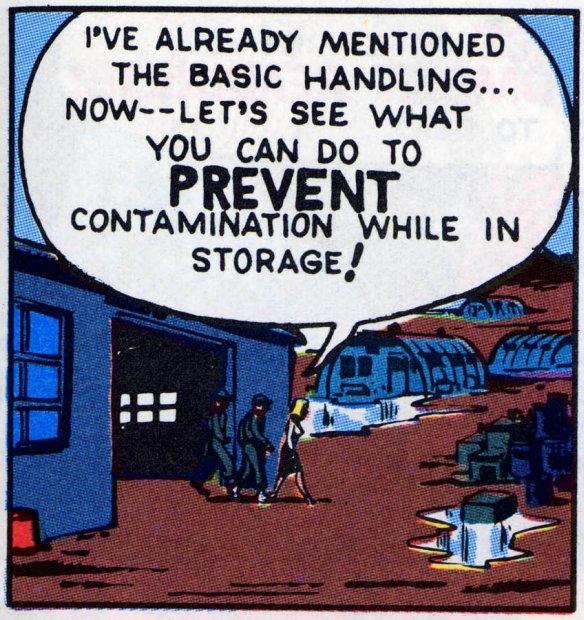
IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BUL

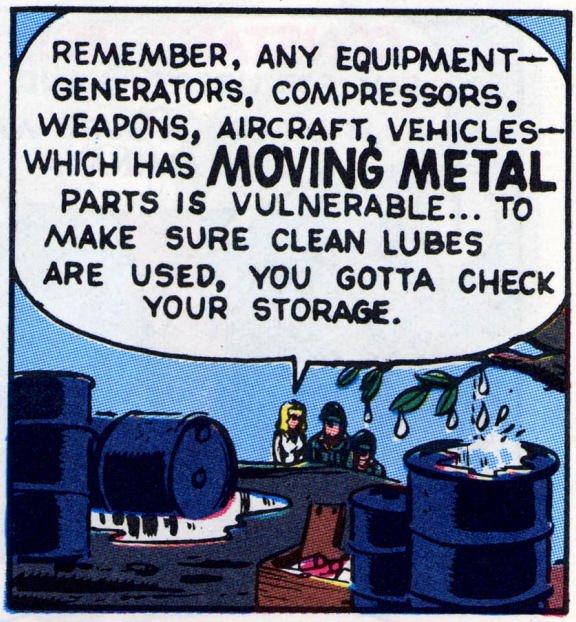
IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.

QUIPMENT ...Take care of it

LLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.

CONNIE, CONNIE, IT'S HIT THE FAN!
YOU AND YOUR KNUCKLE BUSTERS DONE US IN!!
HOLD IT BOYS! HOLD IT!
IT AIN'T OUR FAULT!
OUR PERFORMANCE RATING IS DOWN!!
WE GOT GIGS COMIN' OUT OF OUR EARS.
OUR EQUIPMENT USES REPLACEMENT PARTS LIKE THEY'RE MADE O' PAPER.
YAHH...I'VE FILED EIR'S TILL I'M BLUE IN THE FACE!!
SOUNDS TO ME MORE LIKE AN EPIDEMIC OF CONTAMINATION. NOTHING DESTROYS METAL PARTS FASTER THAN GRITTY LUBE!!
WHAT CAN WE DO TO FIGHT CONTAMINATION?

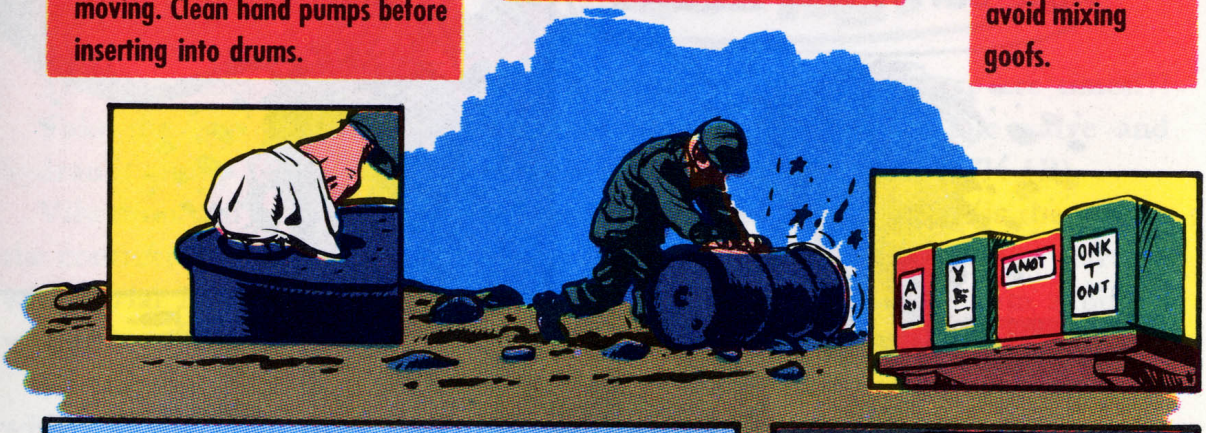




Watch out for water leaking into drums and containers . . . Wipe bungs and filler caps before removing. Clean hand pumps before inserting into drums.

Don't roll drums over rocks or drop 'em when unloading. Use a skid or hoist.

Keep containers—especially fluids—marked right to avoid mixing goofs.



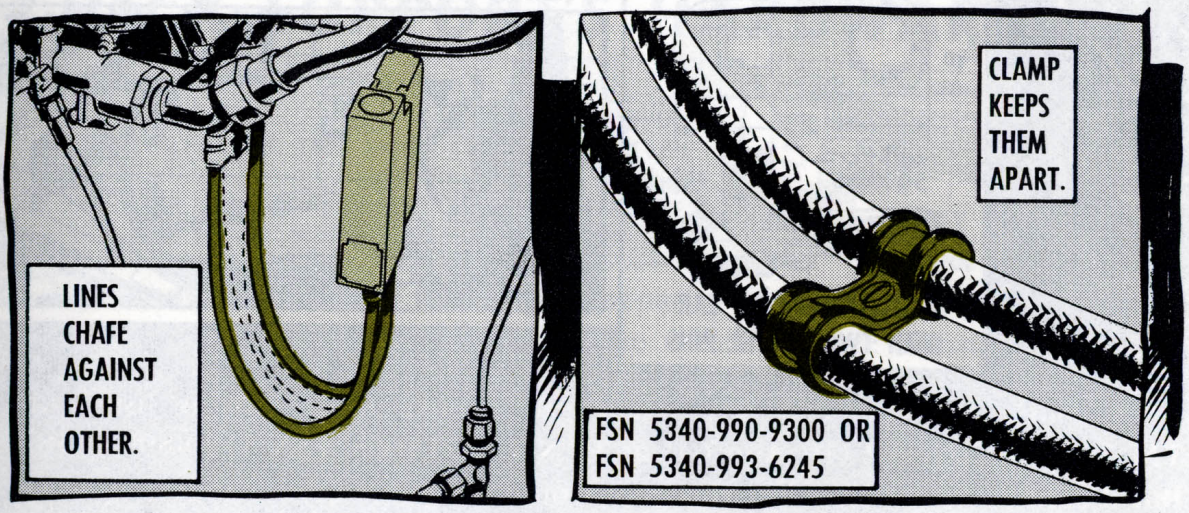
CONSTANT VIGILANCE IS THE PRICE YOU PAY FOR LIBERTY--AND COMBAT READINESS!
...IT'S ALSO A SURE WAY TO BEAT CONTAMINATION!
!
COISES!!...OH WELL— THEY'VE ONLY GAINED A TEMPORARY VICTORY!! ...SOONER OR LATER ONE OUTFIT WILL RELAX...
...AND THEN...
SQUASH!
OKAY...GASP...OKAY... BUT...GAAK BUT THERE ARE MILLIONS CHOKE MORE OF ME CROAK

There're times when togetherness is great . . . and then there are times!!!

Take the two parallel hydraulic lines between the irreversible valve and hydraulic pump for the collective pitch control on your Huey (UH-1B).

Vibration can cause one line to chafe against the other, which is the reason the contractor is now putting a clamp between them on Baker models starting with Serial Number 64-13902. After all, a ruptured line could ruin a pilot's whole day.

The birds earlier than Serial No. 64-13902 should be getting this fixed up with a modification work order before long.

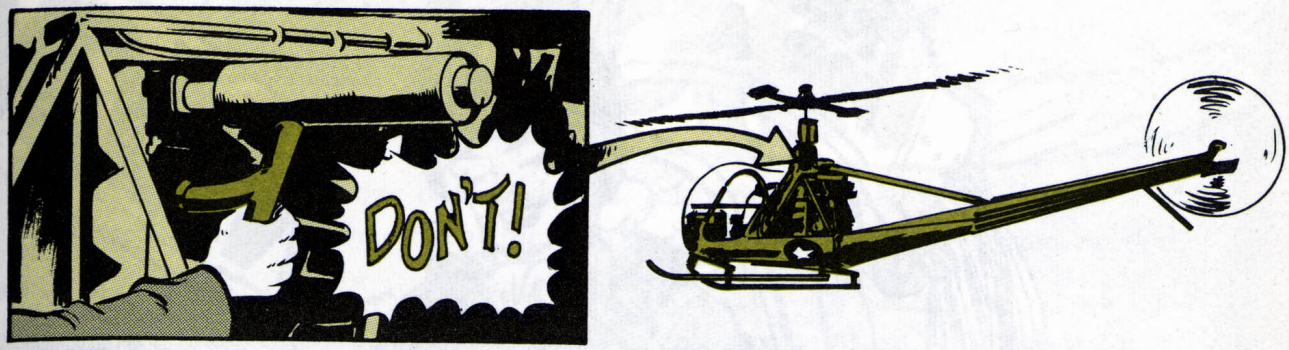


STARTER-GENERATOR TOOL

Of course the open-end box wrench to remove those nuts is listed in TM 55-1510-204-35P (10 Aug 64) as P/N 134GT1065, FSN 5120-899-6558. But if support is not close by, this tool would come in mighty handy.

Windy

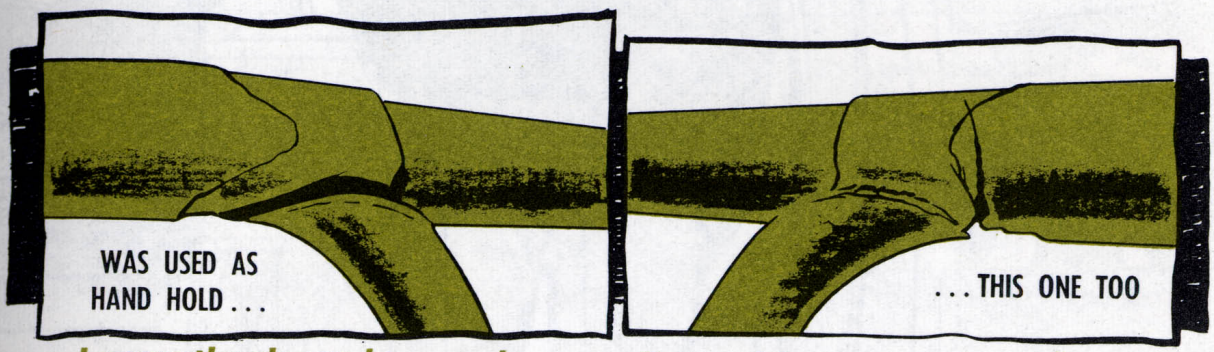
"NOW HEAR THIS!!!"



Dear Editor,

"All holds barred"—from the exhaust manifold—has become a slogan around here when it comes to mounting our Raven (OH-23G).

It took only a couple of cracked manifolds to point out that some personnel were using them as a hand hold in order to eye the main rotor head and swashplate area.

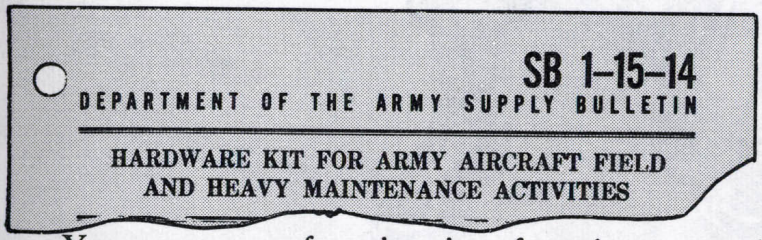


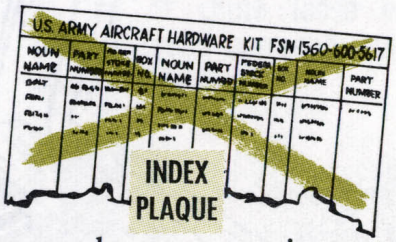
I guess the slogan has caught on pretty good because we haven't had any new cracks in a dog's age.

CWO Franklin H. Brown
25th Inf. Div.

(Ed Note—Good going. This proves again that there's nothing like word-of-mouth advertising.)

CHECK SUPPORT'S HARDWARE KIT





You want your favorite aircraft maintenance shop to keep supporting your common hardware needs in the manner to which you are accustomed, right? OK, then, better tell them about the latest hardware kit listing in SB 1-15-14 (22 Oct 64). This copy of the SB updates the supply story and replaces the outdated index plaque on the container door. So pass the word for your own benefit.

There's no such thing as a go-round on a nylon approach. And, unlike an airborne type, you can't yank on a reserve chute if your main doesn't pop right.

But since the free-fall type of parachute doesn't have any complicated parts,

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LET DOWN

it's not hard to check one out quick-like. Just a minimum of preflight PM is all you need to assure yourself that the chute will do its job . . . if and when needed.

ROUTINE CHECK IS MADE

Before issue and every 30 days a routine inspection of each chute is made by qualified parachute types, according to TB 10-1600-200-20/1 (8 Dec 64).

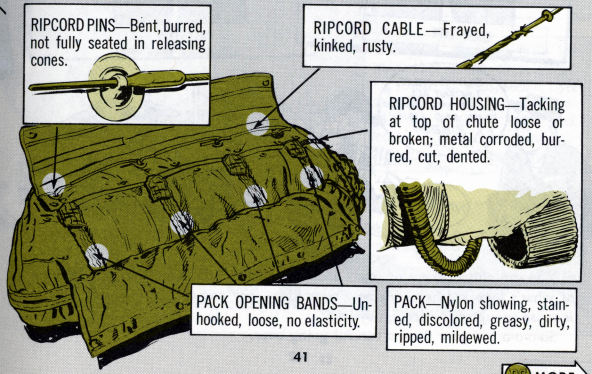
This check includes eyeing the log record (DA Form 10-42) to be sure that the chute has been repacked within the last 120 days as called for in Section V of TM 10-1670-201-25 (29 Sep 64) "Maintenance of Parachutes and Other Airdrop Equipment, General."

Parachute Repack Schedule

Type of parachute	Repack interval days
Troop-type (T-10 Main, Reserve and Maneuverable)	120
Free-type (Back, Chest, and Halo)	120
Ejection-seat	90
Cargo	365
Cargo-extraction	365
Drone-recovery	365

After an external look-see by these parachute types, the elasticity and attachment of the pack opening bands are checked.

Next, the ripcord and protector flap is opened and these items checked:



PS MORE

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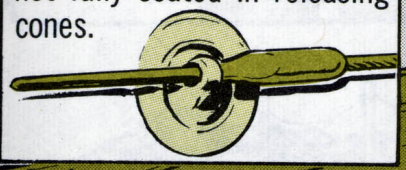
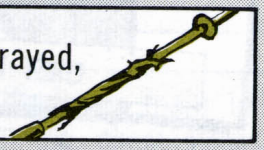
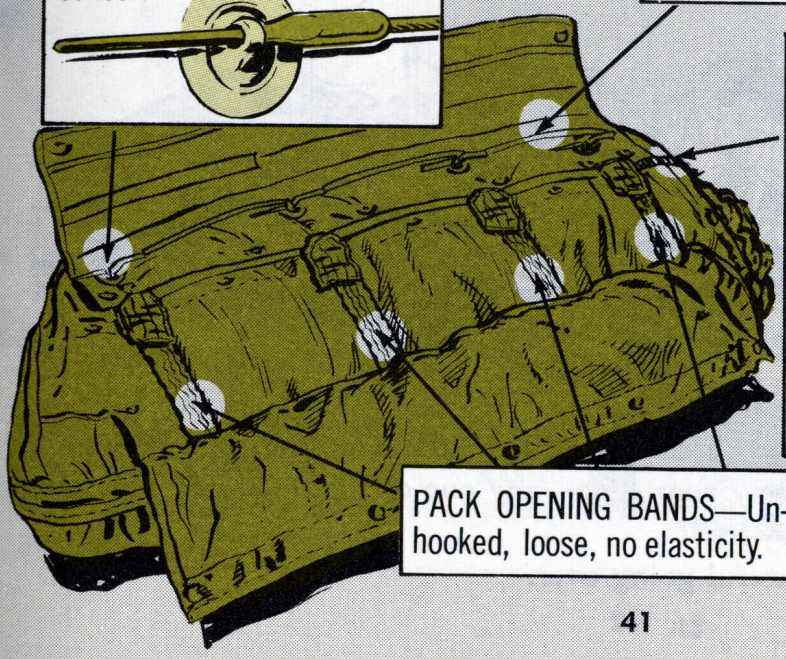
Next, the ripcord and protector flap is opened and these items checked:

RIPCORD PINS—Bent, burred, not fully seated in releasing cones.



RIPCORD CABLE—Frayed, kinked, rusty.





RIPCORD HOUSING—Tacking at top of chute loose or broken; metal corroded, burred, cut, dented.

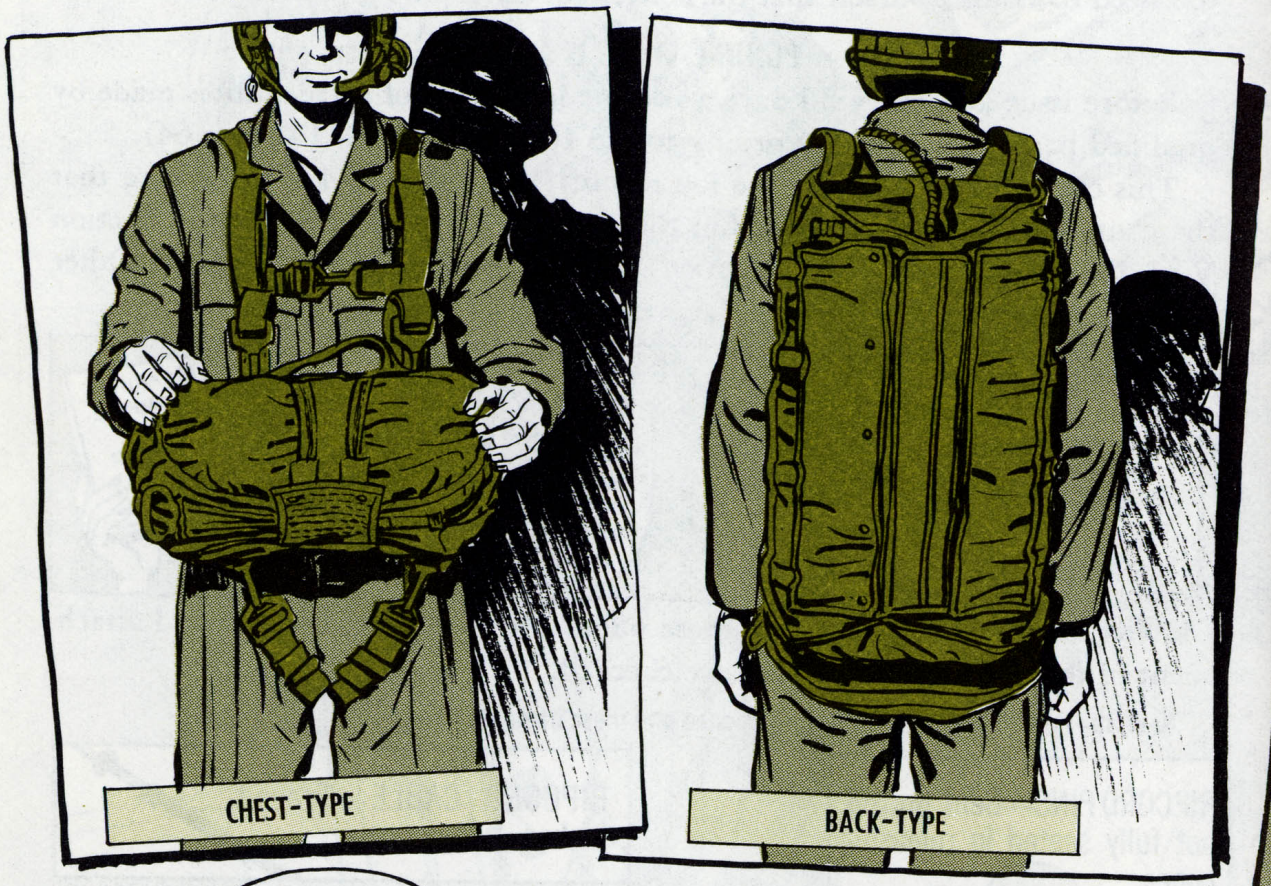
PACK OPENING BANDS—Unhooked, loose, no elasticity.

PACK—Nylon showing, stained, discolored, greasy, dirty, ripped, mildewed.

P.S. MORE

'Course once the chute is issued you're all set to pull your preflight PM.

These points apply to both the B-12 free-fall emergency back-type and the C-9 chest-type chutes. They're authorized by the safety section of AR 95-1 on a basis of one each for crew member and passenger. By the way, since all passengers are not familiar with this equipment, it's your responsibility to check over their chutes, too.



You can either accept or reject a chute based on how it looks to you. Because of what's involved here—namely your hide—any one of the following defects is cause enough for rejection by itself.

So-o-o-o . . . give them a careful going over.

EYE YOUR OWN CHUTE

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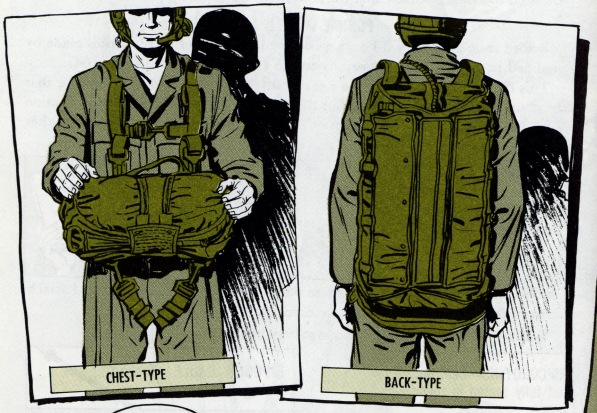

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So-o-o-o . . . give them a careful going over.

CANOPY RELEASE ASSEMBLIES—Open or unlocked, corroded, parts bent, burred or cracked.

RIPCORD HANDLE POCKET—Torn, worn, moldy, burnt, holes, dirty, greasy; seam stitchings broken or loose; stiffener spring broken (feel); lets D-ring slip out; tacking broken or loose.

HARNESS—White spots (battery acid) or other stains, fabric ripped or frayed.

HARDWARE—(Includes D-rings, V-rings and snaps, riser fasteners, adjusting strap buckles and clips, and flap fasteners)—Corroded, bent, burred, cracked.

WEBBING—(Includes main lift webs, back straps, chest straps, leg straps, hip loops, saddle, riser assemblies)—cut, frayed, mildewed, worn, burnt; stitching frayed, loose or broken; cross weave separated; wing flap straps unsnapped.

PADDING—(Includes shoulder protector pads, back pad, chest strap protector)—Torn, burnt, worn, dirty, greasy, holes, moldy, seam stitching loose or broken; sponge rubber filling lumpy (feel); tacking frayed, broken, loose.

PS MORE

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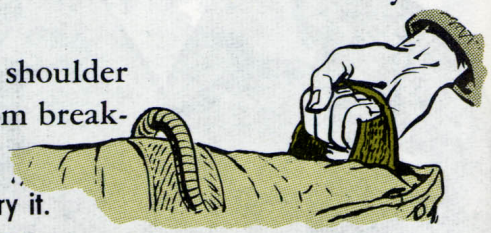
PS MORE

Careless handling of the chute can make you the cause of some of the very same defects you just checked for here.

So, first of all, always grab that back chute by the shoulder harness . . . not by the risers. This will keep you from breaking the tacking on the ripcord housing.



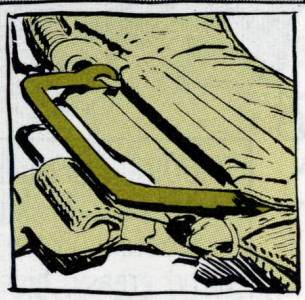
You can then choose any one of these three correct ways to carry it.

1. Wear it on your back or carry it over your shoulder . . . these are the best ways.

2. Support it by **both** shoulder straps . . . this is the strongest part of the harness.

3. Tuck it under one arm . . . like a bundle of newspapers.

When you handle the chute correctly, there's little risk of damaging it. But, for example, if you break the ripcord tacking by using the ripcord housing for a handle, the housing is allowed to twist out of line—forcing the cable inside to kink. This'll keep the chute from opening when the ripcord is pulled.



Or just a thoughtless tug on the ripcord handle and you pop the chute, requiring it to go back to support for inspection and repacking.

KEEP IT CLEAN AND DRY

Once you sign for a chute, take it directly to your aircraft and place it on one of the seats inside. This is usually the safest and cleanest place for a chute while it's inside an aircraft. So any time the seat has to be removed between flights for maintenance, return the chute to the chute room. Or, if the chute room's closed and you have a personal locker that's clean and roomy, you can keep it there for short periods.

The important point here is don't put that chute any place where it might come into contact with dirt, grease, gasoline, oil, water, etc. Any of these will soak through the outside pack and seep down through the tightly packed gores of nylon canopy inside.

Because there is no air circulation among the tight folds inside, the canopy stays damp long after the outside pack has dried out. This is how mildew starts and the main reason why riggers always shake out and hang up chutes to air before each repack.

KEEP OUT OF THE RAIN

Please don't let it rain on your parachute. Since a packed chute wants to be kept as dry as possible, even light drizzles mean trouble. So, depending on the distance between the aircraft and the hangar, protect the pack by using a covered vehicle or wrapping the chute in a poncho or raincoat. If the chutes are already in the aircraft, common practice is to leave 'em there between flights. Best of all, place the chute into a carrying bag.

MORE

STORAGE

Because parachutes can be damaged so easily by careless handling or exposure to weather and so many types of contaminants, your storage SOP should spell out where and how to stow your chutes when they're not in use.

The storage area should be **clean, dry, cool** and **secure.** A cool area is required because long exposure to large doses of sunlight or extreme heat can lead to dry rot . . . which is just as harmful as mildew.

You also want to be sure that the storage area lets you surround each chute with plenty of **air space.** By using shelves, racks or bins, you can make sure no two chutes are piled on top of each other.

To protect the ripcord assembly, each back chute should be stowed with its harness facing down and the ripcord housing toward the wall. Chest-type chutes can be hung up by one of the end loops or placed flat with the ripcord assembly facing up and the D-ring end toward the back.

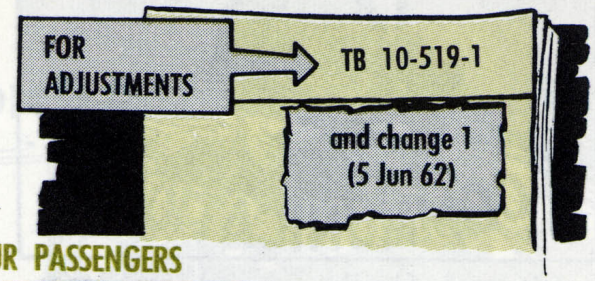
This keeps the weight off the ripcord pins, cones and cable housing. It only takes one bent pin or cable kink to stop that chute from popping properly. And if any part of the ripcord assembly is facing out, someone is sure to use it as a chute handle. So there goes another accidentally popped chute—or else the tacking on the cable housing has been busted, letting the inside cable sag and twist.

A PROPER FIT MEANS SNUG

A properly adjusted harness should be so snug you're practically uncomfortable standing in it . . . and just barely comfortable in a squatting or sitting position. After all, you can plan on having just enough time for a quick tightening tug on the leg straps, and no more, if a bailout situation happens to stare you in the face.

And don't forget that you've got hardware on the harness that can bang the heck outta you just as the air filled chute jerks you upright. So a loose chute is no laughing matter . . . particularly in the leg-strap area.

Making that chute fit snug means using the **7 adjustment points** on the harness. If you're not up on adjustment procedure, hunt up a copy of TB 10-519-1 (Apr 56) and its Change 1 (5 Jun 62).



PROTECT YOUR PASSENGERS

THIS TB ALSO MENTIONS THE AVIATOR'S RESPONSIBILITY TO HIS PASSENGERS. IT SAYS EACH AIRCRAFT DRIVER SHOULD:

1. Help each passenger get a good fit.
2. Brief each passenger on bailout signals and emergency exits.
3. Warn each passenger to adjust his chest strap loosely when wearing a life vest. (This is in case a vest is inflated accidentally.)
4. Do all of the above **before** takeoff. (Followup interviews have proven that "later" is not too good.)

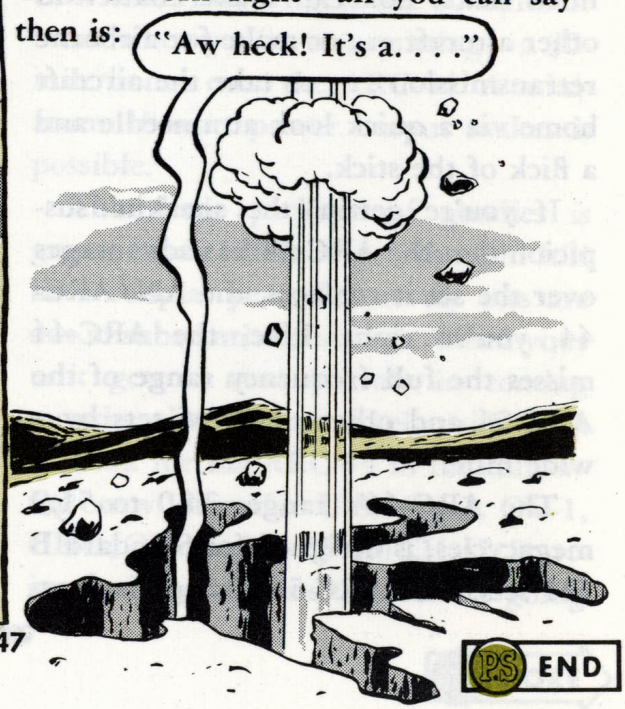
MOHAWK BOOM CHUTES

Mohawk (OV-1) ejection seat chutes are something else again. They're actually a part of each cockpit seat . . . and they involve a series of safety pin locks for preventing cartridges from firing accidentally. So the only way to check 'em out is by following the book while you're doing your normal organizational maintenance.

GO IN STYLE

If you ever have to go, might as well go first class . . . and enjoy the ride . . . with a good-lookin', perfectly-operating, nylon umbrella . . . that you can talk about afterward.

Because once you put it on—and it doesn't work right—all you can say then is:



PS END

FOR TACTICAL TALK . . .

TRY A HIGH-FLYING AN/

It's real family . . . and far from junior-size.

The fact is, the latest member to join the new FM family of radio sets joins it full-grown and ready to do a man-sized job.

This latest addition, you guessed it, is the AN/ARC-54 radio set. Unlike its predecessors, which get rides in trucks, tanks or on your back, this one birdtails it into the wide blue via more than a half-dozen types of aircraft.

When it's up there, it fills a big hole over the heads of ground types . . . kinda like a guardian angel that talks back to you. It's a mighty comfortin' feelin' when you need somebody to look over the next hill.

The ARC-54 does more than make air-to-ground talk, though. Its streamlined black box can make chatter to other aircraft . . . or make for airborne retransmission . . . or take the aircraft home via a quick look at a needle and a flick of the stick.

If you're gettin' the sneakin' suspicion that the ARC-54 has advantages over the set it replaces, the AN/ARC-44, you're right. Like, the ARC-44 misses the full frequency range of the ARC-54 and other new FM sets by a wide mile.

The ARC-44's range, 24.0 to 51.9 megacycles, is designed for Standard B FM sets. The ARC-54's range is from

FOR TACTICAL TALK . . .

TRY A HIGH-FLYING AN/ARC-54 RADIO SET

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When it's up there, it fills a big hole over the heads of ground types . . . kinda like a guardian angel that talks back to you. It's a mighty comfortin' feelin' when you need somebody to look over the next hill.

The ARC-54 does more than make air-to-ground talk, though. Its streamlined black box can make chatter to other aircraft . . . or make for airborne retransmission . . . or take the aircraft home via a quick look at a needle and a flick of the stick.

If you're gettin' the sneakin' suspicion that the ARC-54 has advantages over the set it replaces, the AN/ARC-44, you're right. Like, the ARC-44 misses the full frequency range of the ARC-54 and other new FM sets by a wide mile.

The ARC-44's range, 24.0 to 51.9 megacycles, is designed for Standard B FM sets. The ARC-54's range is from 30.0 to 69.95 megacycles, the eagle's share of the new FM family range. The FM frequencies, of course, make the ARC-54's primary mission a tactical one.

If that bit of info doesn't grab you where it hurts, consider this: the additional frequency range gives the ARC-54 800 narrow band FM channels (spaced at 50 kc) compared to the 280 channels of the ARC-44. It helps when the airwaves get crowded.

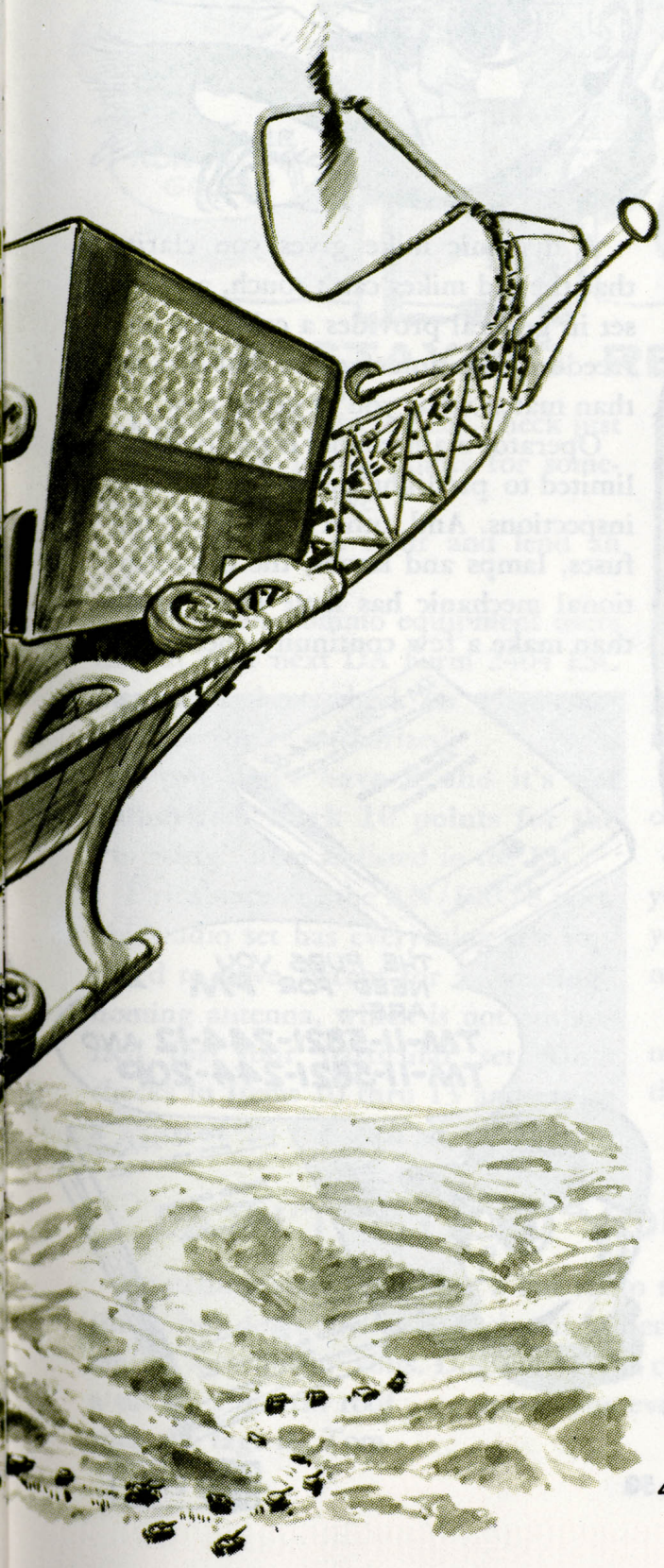
And . . . transistorized, modularized construction makes the new set more dependable and easier to maintain. It has only three tubes—compared to 29 in the ARC-44.

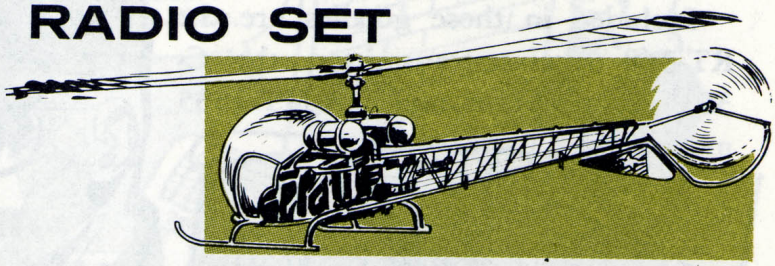
As a capper for your enthusiasm, try this: The ARC-54 gets out 80 miles or more when you're transmitting—a 30-mile bonus over the ARC-44. A minimum 10-watt power output makes it possible.

That little package of goodies is gonna take a while to get, though. It'll be a coupla' years before the sets are out in substantial numbers. When your unit gets a new aircraft in coming months, the set most likely will be in it. Look for the ARC-54 in the following new aircraft: U-8, CV-2, OV-1, UH-1, OH-13, OH-23 and CH-47. Starting in a few months the sets are going

MORE

ARC-54 RADIO SET





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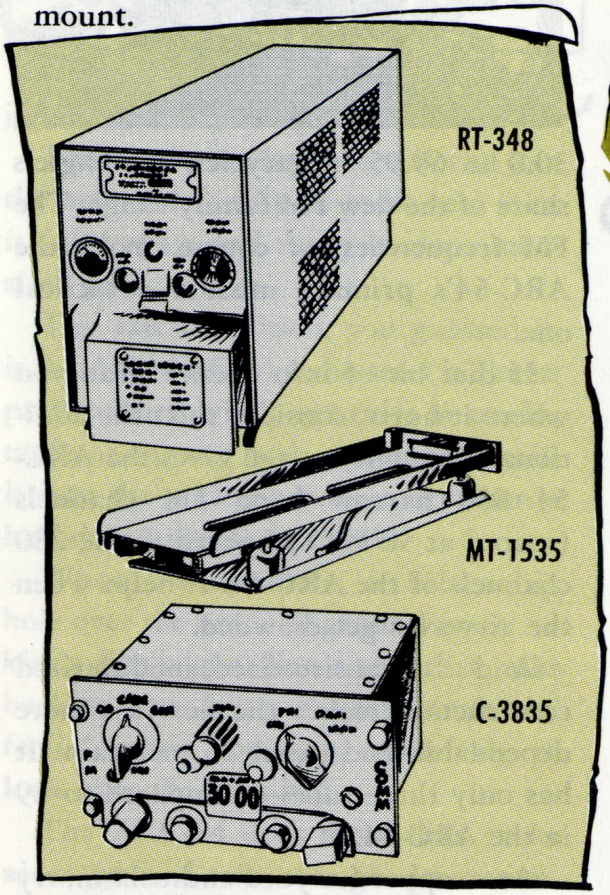
P.S. MORE

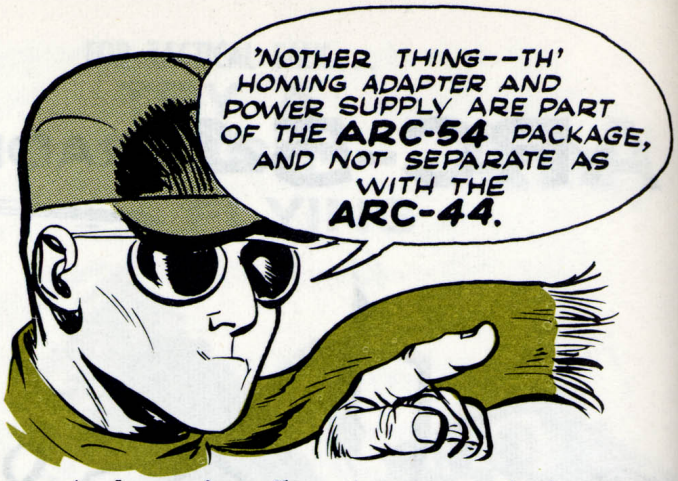
in as replacements in the Iroquois, Sioux, Raven and Chinook.

Included in those goodies are the RT-348 receiver-transmitter, the C-3835 control unit and the MT-1535 mount.



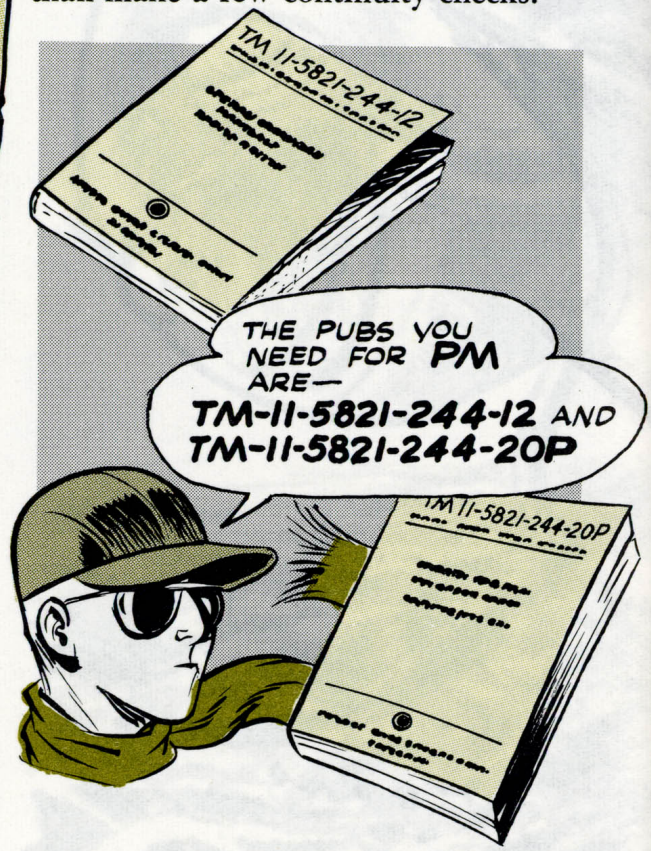
The nice part about takin' care of them is that all the organizational repairman needs is the AN/URM-105 multimeter and his TK-115/U tool kit. Maintenance chores are simple, fast, and easy to support.

A coupla' other nice "parts" about the set are a tone squelch and a new visual homing system, the latter for aircraft not fitted with an "OMNI" system. Instead of "listening" your way home as you do with the ARC-44, the new homing indicator features a "right-left" vertical pointer which shows you the direction to head the aircraft.



A dynamic mike gives you clarity that the old mikes can't touch, and the set in general provides a crispness and freedom from interference that'll more than match what you're using now.

Operator maintenance is pretty much limited to preflight checks and routine inspections. And, other than replacing fuses, lamps and knobs, the organizational mechanic has little more to do than make a few continuity checks.



END

STOP STAYING RED — GO GREEN

Don't say heck to the ESC check just 'cause you're losing points for somethin' you don't have!

Instead, grab a chair and lend an ear.

Before you commo equipment users fill out your next DA Form 2404 ESC inspection sheet, check on what components you're authorized.

If you don't have it and it's not authorized, mark 10 points for the "missing" item as listed in the ESC.

F'rinstance . . . the AN/PRC-8 portable radio set has everything it's supposed to have, except for a "missing" homing antenna, which is not authorized for your particular set. Omit checks in Items 10 thru 13 and assign a score of 10 for each of these steps. This permits the remaining authorized equipment to be scored and categorized on its merit.

Whether it's an antenna, receiver, handset or other gadget, this guide's good.

Providing all other items in the ESC get the high count, the equipment'll be in the GREEN and ready to go.

ESC manuals'll be getting changed or revised to clarify this.

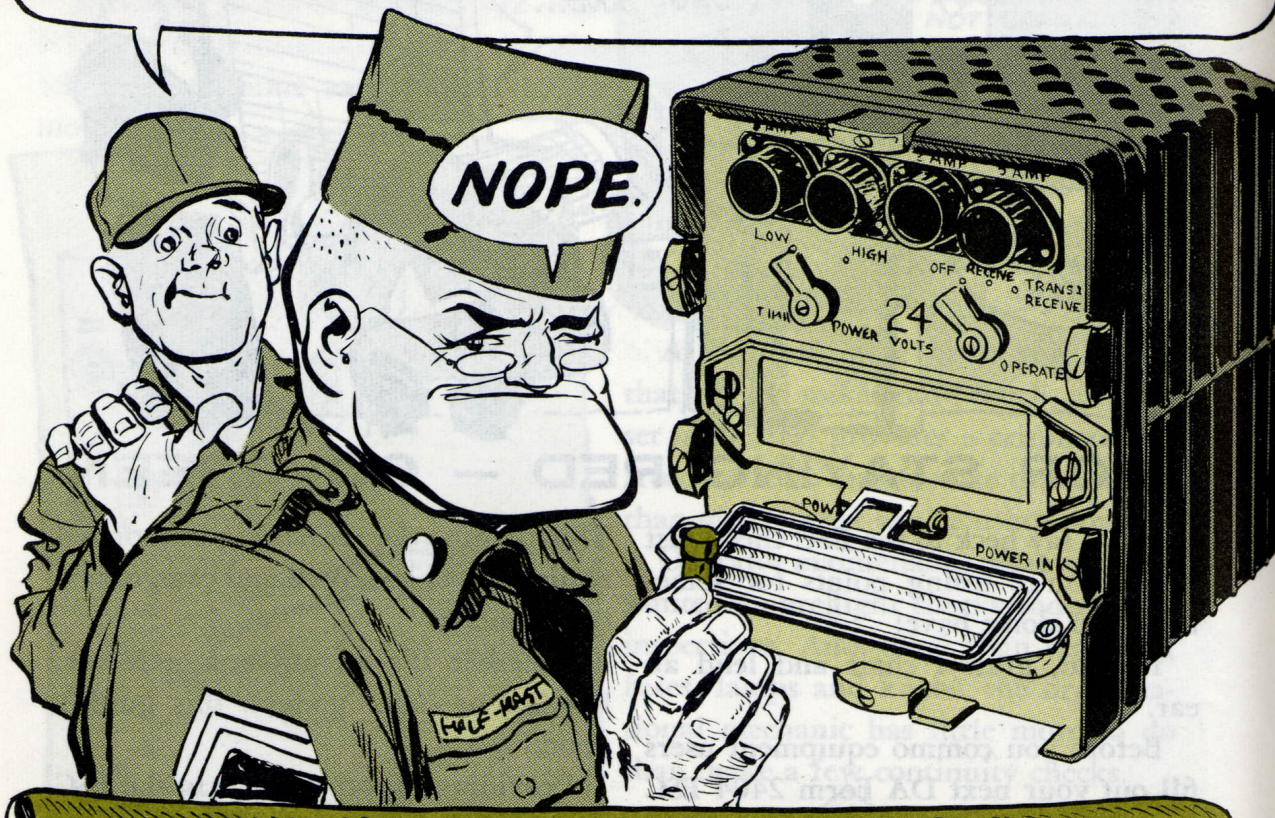
In the event your TOE agrees with your ESC, you can't second guess. If you don't have an authorized component, you get zero and a "RED" rating.

To stop staying in the RED rut, move on the GREEN scene by getting that missing equipment.

DON'T STICK YOUR NECK OUT

Stretching your neck over a hot radio transmitter may be a necessary bit at times, but don't stick said neck out by letting your ID tags dangle temptingly amidst some joltin' volts. Dog tags in the current can make your neck dance like a cat on a hot tin roof . . . and maybe even short out the transmitter, too. So tuck the tags in, Tom.

BUDDY CAN YOU SPARE A SPARE?



Dear Half-Mast,

What's the word on Signal equipment running spares?

Like, f'rinstance, the spare fuses for the PP-112 power supply. TM 11-5820-316-12P on the power supply says no parts are authorized for stockage at first echelon. Also, changes to SIG 7 & 8's delete items which used to be running spares.

So-o-o-o-o, to comply with TM 11-5820-316-12P, we removed the 3- and 5-amp spare fuses from our PP-112s and put them in the accessory bags which stay with the equipment . . . for which we got a great big gig during a recent CMMI.

Sgts R. B. D. and J. F. I.

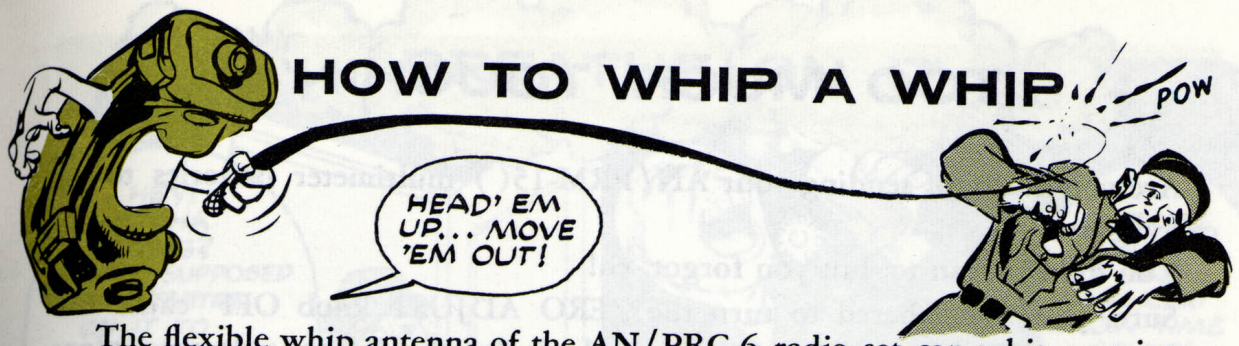
Dear Sergeants D. & I.,

Your suspicion on the fuses is right. They're not running spares these days. Also, they don't belong in the spare fuse wells. The -12P, the SIG 7 & 8 changes, and para 12b of AR 700-18 (Apr 61) spell that out.

However, whether it be the fuses or another ex-running spare, local commanders have the option of using the spare storage spaces. Which means that unless your CO says otherwise, the storage space on equipment for running spares should be empty.

Half-Mast

HOW TO WHIP A WHIP

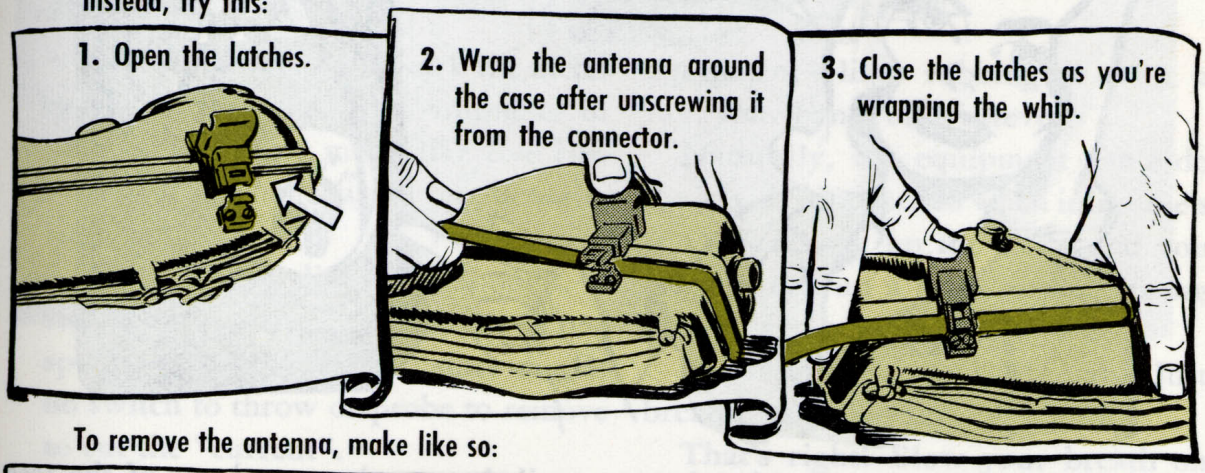


The flexible whip antenna of the AN/PRC-6 radio set can whip you into a lather if you take shortcuts when folding it. So don't . . . lest you be left with the sticky end of the stick.

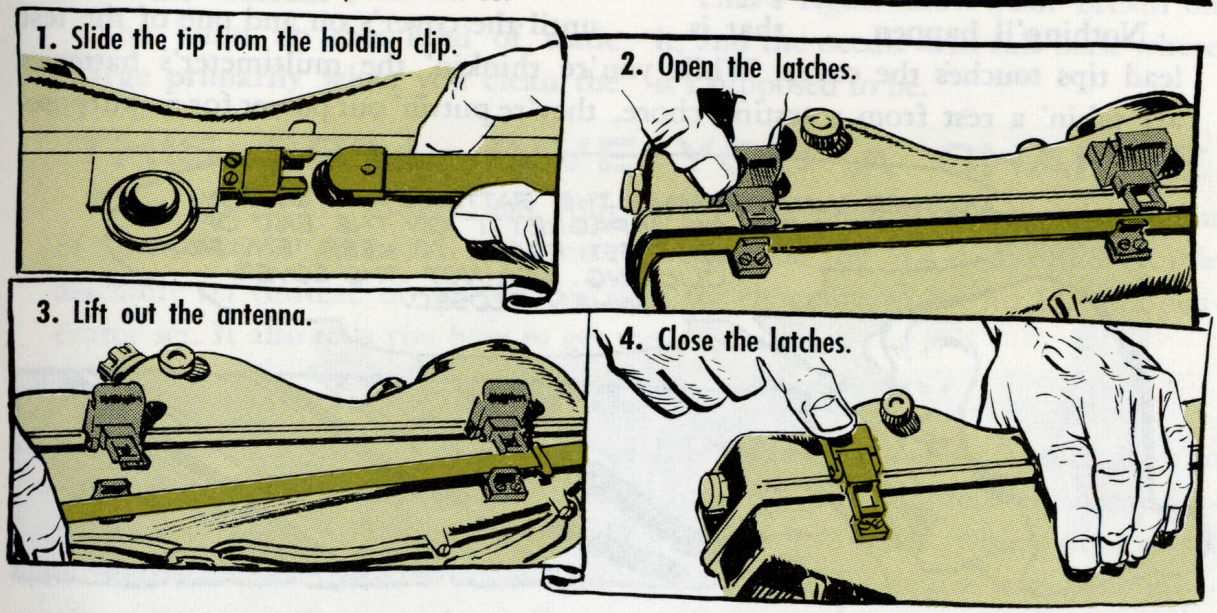
A few seconds of lovin' care can keep your set out of the repair shop and off the useless line, where it'd be waiting for a new antenna.

A coupla' important "don'ts" when folding the whip are: Don't twist it, and don't try to slide it under the closed latches of the radio case. It might look easier, but the closed latches really make the job tough.

Instead, try this:



To remove the antenna, make like so:



A coupla' final "don'ts:" Don't roll the whip into a loop, and don't put anything weighty on it or let it lay around where it can be stepped on.

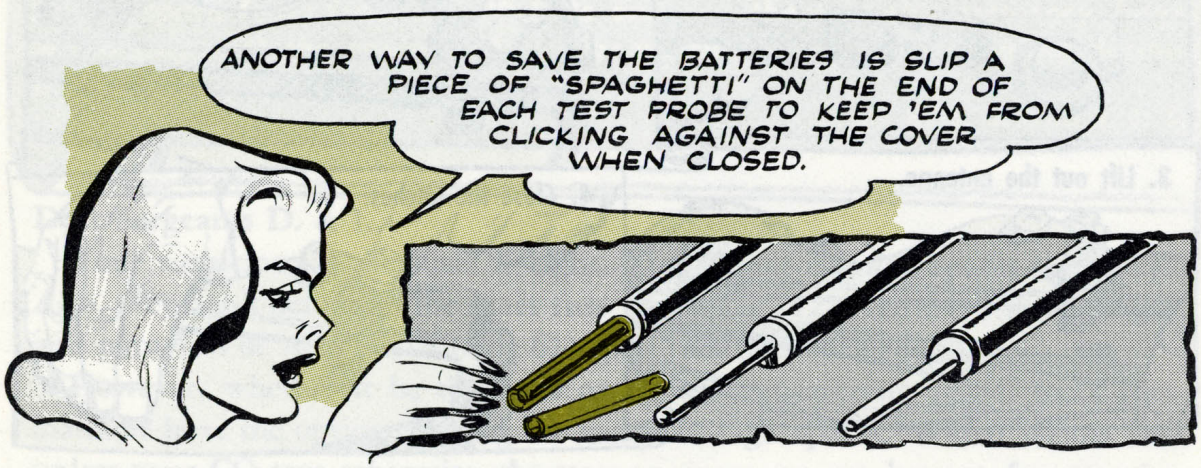
TOO MUCH TOUCHIN'

Are you guilty of sending your AN/PRM-15( ) multimeter batteries to an early grave?

You didn't mean to, but you forgot, eh!

Sure, you remembered to turn the ZERO ADJUST knob OFF 'cause the L-bracket on the bottom of the cover wouldn't let the lid snuggle into place when it was on.

Nothing'll happen . . . that is . . . until the cover's on and one of the test lead tips touches the cover. While you're thinkin' the multimeter's batteries are takin' a rest from a testing chore, they're puttin' out power for no purpose.



Your best bet, tho, is leave the knob off "R" when you put the PRM-15 away.

Static electricity will work the meter needle of your ammeter, voltmeter or multimeter pretty much like live current . . . as you may've accidentally found out.

There's a big difference, though. A static charge'll stick your needle in one spot and hold it there . . . since there's no switch to throw or probe to remove to cut the "current".

You build up this kind of static charge primarily when you clean the equipment—like, rubbing it with a rag, your hand, or whatever.

Naturally, the equipment can't do the job it's supposed to when its needle's stuck part way up the scale, and you might work up a little sweat figuring how to get it back to normal.

No need for sweat, though. Just breathe on the meter.

That's right! Blow your breath on it, and the needle will fall back where it's supposed to be.

THIS SB'LL GIVE YOU A CHARGE

Your BB-422/U battery and your AN/PPS-4 radar set'll get a charge out of SB 11-506 (3 Sep 64). It tells you to requisition the MX-4765/PPS-4 cable assembly set (instead of the MK-557 kit) for charging with your PU-532 generator set. It also tells you how to get the generator.

THE IM-108 STORY

Hey out there! If you've still got an IM-108/PD radiacmeter, turn it in to your support for demilitarization. Your authority, like before, is an Army Signal Supply Agency TWX (RUEPSA 173), dated 9 May 62, which went to all Army commands. Also, if you've got an IM-108A/PD, return it to Lexington-Blue Grass or Sacramento Army Depots . . . through normal channels. The -108A was replaced by the IM-174.

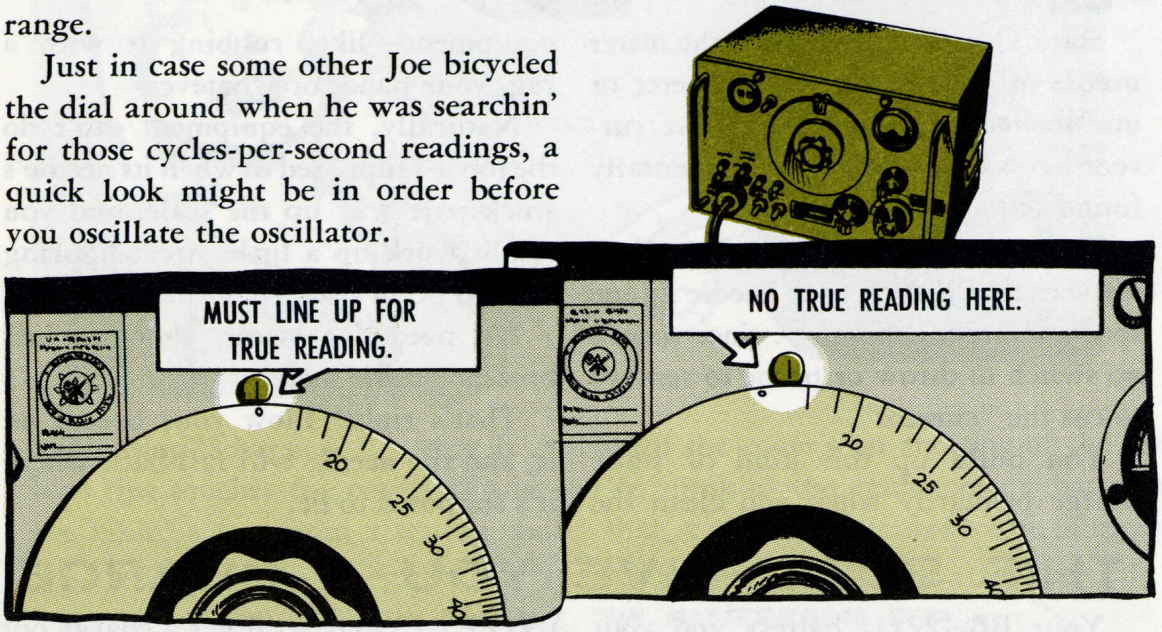
DIAL AWAY, BUT DON'T PLAY

Spinning the bottle can lead to all sorts of goodies, but spinning the dial of your TS-382( )/U audio oscillator will only steer you to problems . . . fast.

Like so. The main tuning dial rides free 'n easy, and that's kinda like the way you're supposed to turn it—easy.

A fast twirl can bang the dial against its stops at either end. It slips on its shaft, and you can't get a true reading from it when you tune for a frequency range.

Just in case some other Joe bicycled the dial around when he was searchin' for those cycles-per-second readings, a quick look might be in order before you oscillate the oscillator.



Be sure the white dot (or hairline, if that's what you have) at the left extreme of the dial lines up flush with the fixed hairline indicator just above or directly over your dial markings.

If they're off even a fraction, you won't be able to dial the frequency range you want.

Lotsa times you can get the set back on the beam by tapping the dial gently against the stop on the opposite end. F'rinstance, if the dot or end line is to the left of the fixed hairline, tap the dial gently against its right hand stop. Usually, you can line it up again. Reverse the procedure when the dot's to the right of the hairline.

If that won't work, higher level repair is needed.

THE SLOW APPROACH PAYS OFF

The TUNING dial on your ME-57/U modulation meter is a little like a lot of females.

When the end is in sight, take it slow and easy. The big rush may put your meter, or your romance, right out of business.

Like, when you're approaching the extremes of the frequency dial (20 or 1000 MC), do it real slow so's you don't clunk into either dial stop pin.

A hard smash, or too much pressure, can damage the dial stop or misaline the dial on its shaft. That knocks your accuracy.

Considering the range from 20 to 1000 megacycles, you'll rarely, if ever, have to go to the extreme ends of the TUNING dial; therefore, the stops are next to unnecessary.

Which means take it easy when you do have to go to either extreme . . . and don't get gay and go banging into the dial stops for the fun of it.

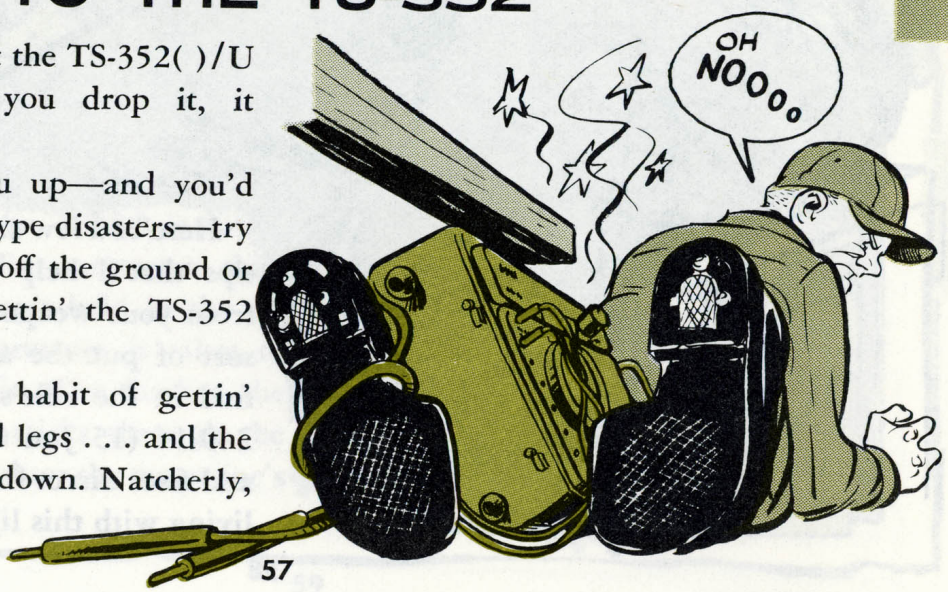
When you feel the stop, quit with the pressure.

A FUNNY THING HAPPENED TO THE TS-352

Funny thing about the TS-352( )/U multimeter. When you drop it, it breaks.

If that breaks you up—and you'd prefer to avoid like-type disasters—try lifting the test leads off the ground or floor when you're lettin' the TS-352 rest up.

The leads have a habit of gettin' tangled with feet and legs . . . and the case comes tumblin' down. Natcherly, that breaks it up. . . .



Here're a few cleaning and operating tips that'll help you get best results from your weapon. Some of these tips sort of put the accent on stuff you'll find in the rifle's bible—TM 9-1005-249-14 (15 Jun 64). Others are hexes and fixes direct from guys who've been living with this light-weight terror.

TIPS THAT'LL KEEP IT YOUR EVER-LOVIN...

SWEET 16

THERE'RE NOT TOO MANY OF THE 5.56-MM, M16 AND XM16E1 RIFLES AROUND AS YET... BUT, THEY'RE WHERE THEY DO THE MOST GOOD.

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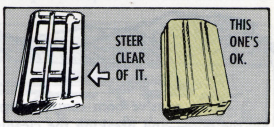
TIP...

For instance, with the Joe in a position to know, it's the new-type aluminum magazine umpteen hundred to 0 over the steel-type that came with the early models. The steel mags sometimes caused bolt lock failure and failure to feed.

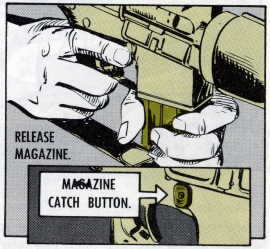
So, if you have the steel type, turn it in pronto for the aluminum one. They both take the same stock number



—FSN 1005-056-2237—but they're easy to tell apart. The one you want has three straight tubes, while the one you want to steer clear of has crossed tubes.

TIP...

Speaking of magazines . . . every guy has his own idea of how firm or loose he wants the holding action of the magazine catch to be. Which is A-OK as far as it goes. But remember this: The tighter the mag's held in the receiver, the more pressure it takes to release it. And this: The farther the shaft of the catch sticks through the catch button, the tighter the magazine's held in the receiver.



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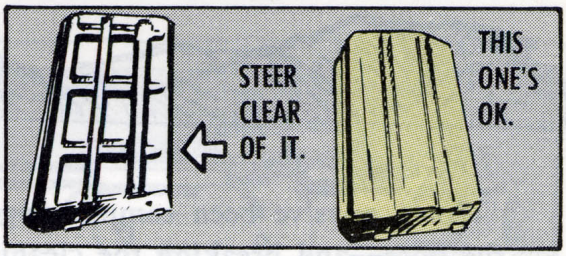

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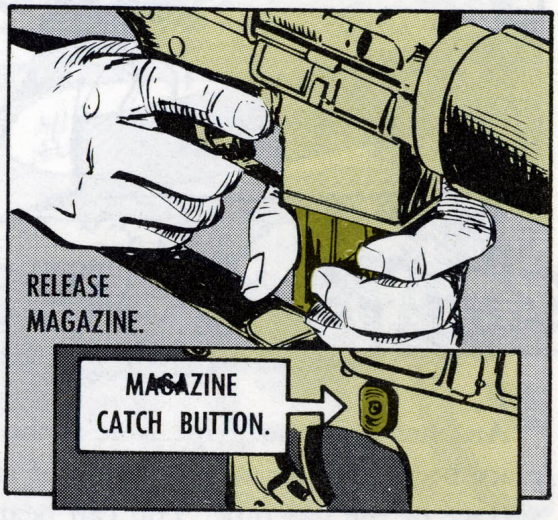
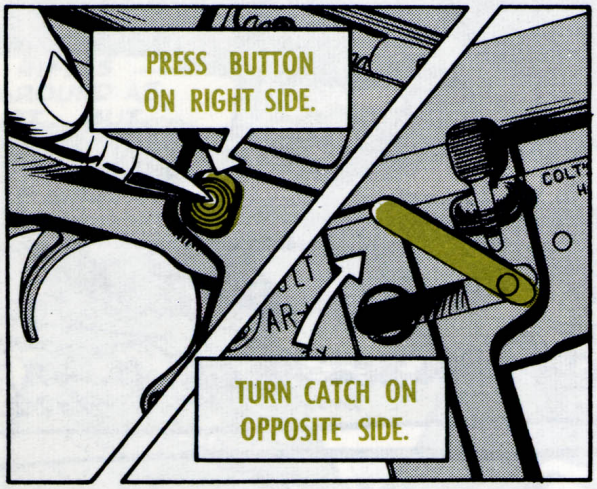


PS MORE

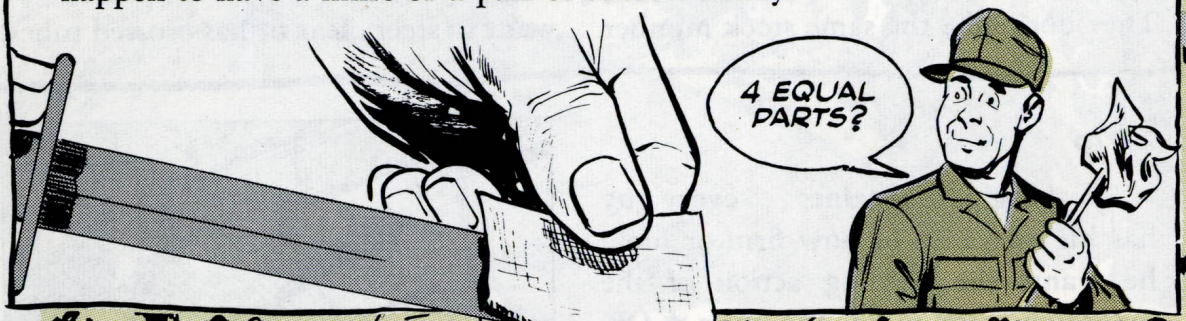
So, take a cue from experience. Adjust the catch button so's it's just about flush with the inner groove or just sticks out a tiny bit. This'll make the catch firm enough to prevent accidentally bumping the button and letting the magazine drop out—yet it won't be so tight that you can't pull the mag out for a quick re-load.



No sweat adjusting the catch the way you want it, either . . . and you're authorized to pull this deal. Just press the button on the right side of the rifle with the nose of a cartridge far enough so's you can turn the catch on the left side of the weapon. You turn the handle clockwise to tighten it and counter-clockwise to loosen it. Best of all, you don't have to take the weapon apart to do this.

TIP...

Some guys've been complaining about cleaning swabs jamming in the bore—and breaking the cleaning rod. You won't have this trouble if you stick by the book and cut all cleaning swabs into four equal squares before using 'em. Your bayonet will do the job if you don't happen to have a knife or a pair of scissors handy.



TIP...

Another common gripe zone is the bolt carrier. Sometimes it'll get frozen in place because of an accumulation of carbon in the carrier key and on the outside surface of the gas tube. You can beat this hex easy, though, if you do like so:

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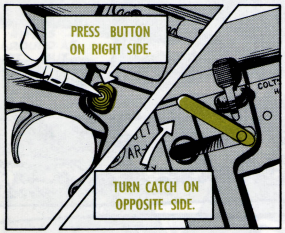

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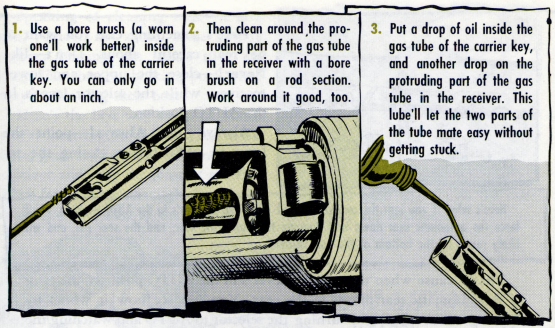
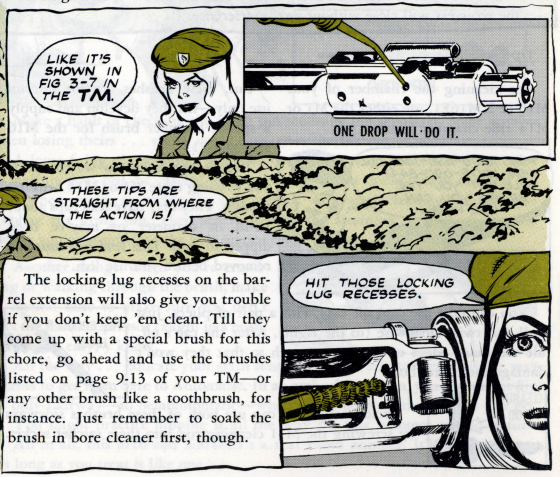
1. Use a bore brush (a worn one'll work better) inside the gas tube of the carrier key. You can only go in about an inch.
2. Then clean around the protruding part of the gas tube in the receiver with a bore brush on a rod section. Work around it good, too.
3. Put a drop of oil inside the gas tube of the carrier key, and another drop on the protruding part of the gas tube in the receiver. This lube'll let the two parts of the tube mate easy without getting stuck.



And, while you're at it, you oughta also put a drop of oil in each hole on the boat ring.



The locking lug recesses on the barrel extension will also give you trouble if you don't keep 'em clean. Till they come up with a special brush for this chore, go ahead and use the brushes listed on page 9-13 of your TM—or any other brush like a toothbrush, for instance. Just remember to soak the brush in bore cleaner first, though.

MORE

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2. Then clean around the protruding part of the gas tube in the receiver with a bore brush on a rod section. Work around it good, too.

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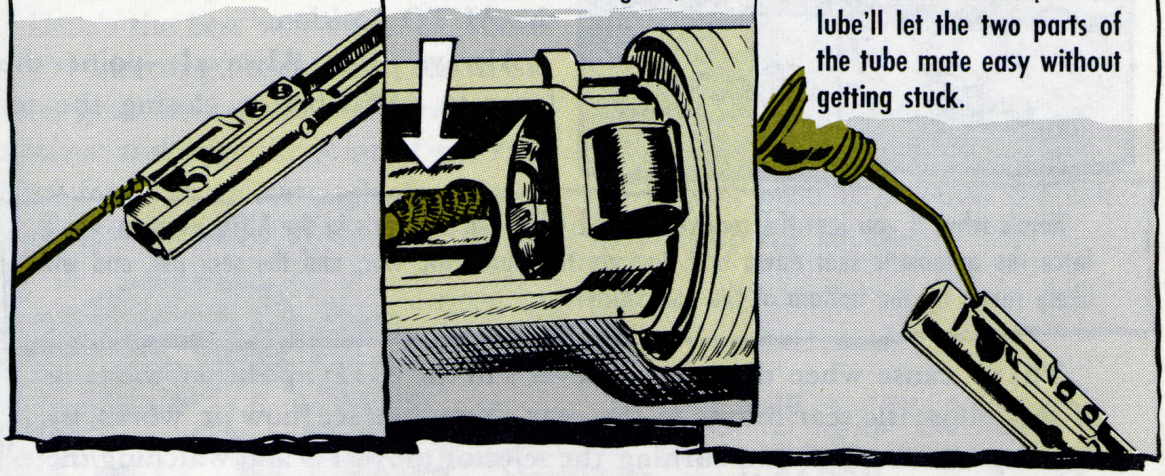
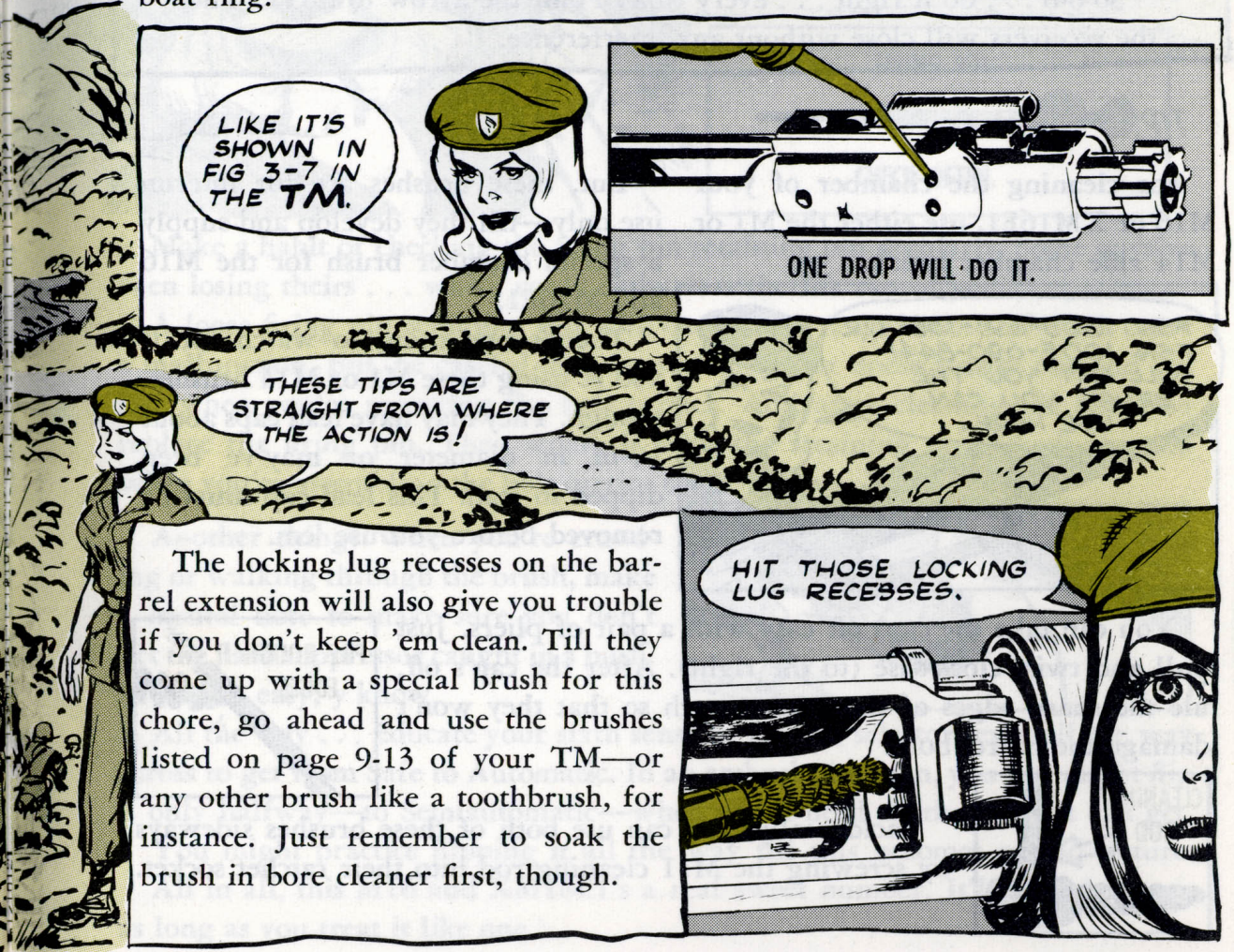


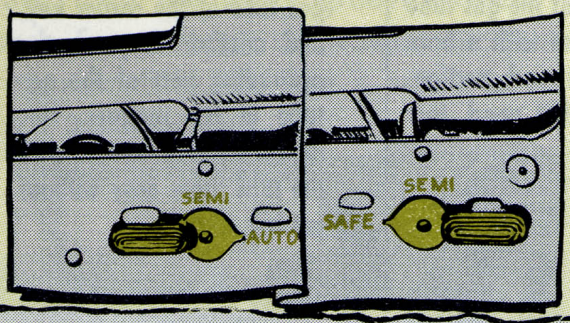
And, while you're at it, you oughta also put a drop of oil in each hole on the boat ring.



The locking lug recesses on the barrel extension will also give you trouble if you don't keep 'em clean. Till they come up with a special brush for this chore, go ahead and use the brushes listed on page 9-13 of your TM—or any other brush like a toothbrush, for instance. Just remember to soak the brush in bore cleaner first, though.

PS MORE

TIP...



Here's something else you want to be real careful about. Don't—like **Never!**—close the upper and lower receivers while the selector lever's in the AUTO position.

Always—like **Always!**—point the lever to SAFE before closing the receivers.

Here's why: If you jam the receivers closed while the selector's in the AUTO position, you'll force the automatic sear down and damage the automatic sear, and the sear pin, and will likely rough up the bottom of the bolt carrier.

That's 'cause when the selector lever's in the AUTO position, the tang of the automatic sear moves to the rear. You can see how it works by opening the receiver and turning the selector to AUTO and watching the movement of the tang of the automatic sear.

So-o-o . . . do it right . . . every time. Point the arrow to SAFE. Then the receivers will close without any interference.

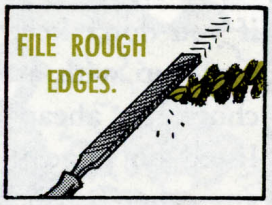
TIP...

For cleaning the chamber of your M16 or XM16E1, use either the M1 or M14 rifle chamber brush.

But, these brushes are for interim use only—till they develop and supply a special chamber brush for the M16 and M16E1.

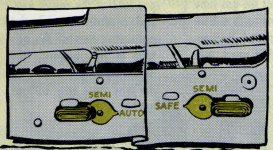
There's one thing to watch for if you're using these M1 or M14 brushes, though. They may have lead caps about ¼-in in diameter or may've been dipped in lead. This lead cap **must** be removed before you use 'em.

You can take the caps off easy with a pair of pliers. Just pull and twist clockwise (to the right). After the cap's off, file the sharp edges of the wire smooth so that they won't damage the barrel bore.



Incidentally, you can use both of these brushes sideways by screwing the M11 cleaning rod into their ratchet socket.

TIP...



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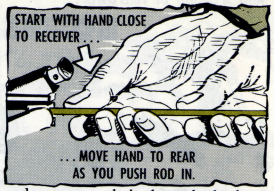
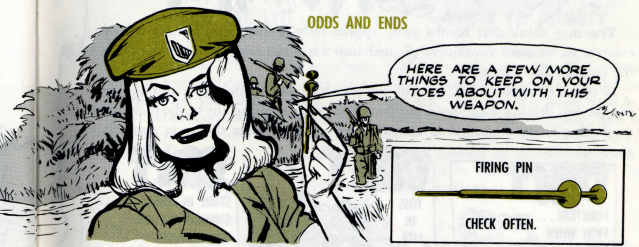
Incidentally, you can use both of these brushes sideways by screwing the M11 cleaning rod into their ratchet socket.

Speaking of cleaning rods—it is a rod, y'know, not a cue. Some guys're forever busting 'em 'cause they use them like they're shooting pool when they're cleaning their bore.

Here's the best way to do it: When you're inserting the cleaning rod in the bore, grab hold of the rod close to the receiver and over the joint of the rod. Then feed the rod through the rifle by moving your hand to the rear of the rod as you push it through the bore. This'll stop the breakage.



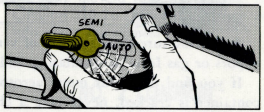
ODDS AND ENDS



Make a habit of checking the firing pin retaining pin regularly. Some guys've been losing theirs . . . which could embarrass the life out of you.

A loose firing pin retaining pin with one or both tangs broken off won't cause a malfunction. But, be careful that the retaining pin doesn't drop out and get lost when you're removing the bolt carrier. And after cleaning, be sure you replace the firing pin. Then secure it with the retaining pin. Check it again when you're assembling the bolt carrier to the receiver.

Another thing: When you're crawling or walking through the brush, make a mental note to make sure you don't get the flash suppressor caught in a bush. It catches easy, y'know.



All the way . . . Educate your sixth sense to flip the selector lever all the way across to get from Safe to Automatic. In an ambush situation, you just might flip it only halfway—to Semiautomatic—when you'll need all the fire you can get.

You might practice flipping it all the way till this becomes second nature.

All in all, this M16 and XM16E1's a real sweet number. It'll stay that way as long as you treat it like one.

END

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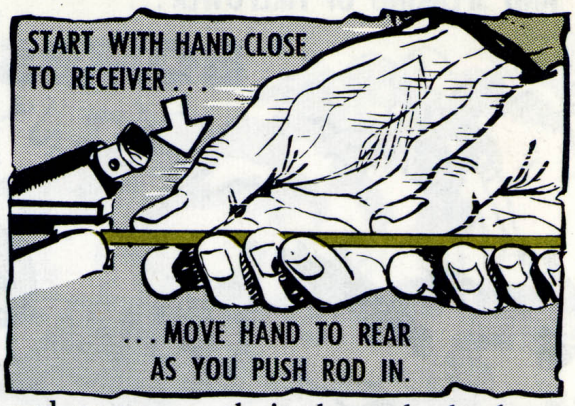

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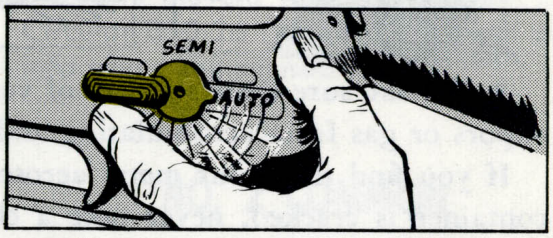

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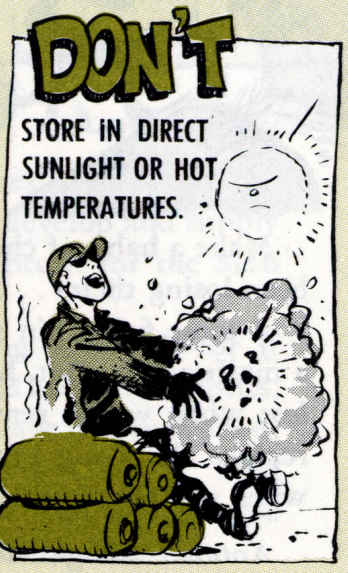
END

You may think that bombs away applies only to airplanes, but it's not necessarily so. Aerosol containers pitched into a fire can take off like a bomb, but the target's anyone's guess.

It doesn't matter what type of maintenance you're doing—painting your equipment, shining your shoes, patching your skin, or using any of the three hundred other items packaged in aerosol cans—there're some things to remember about them.



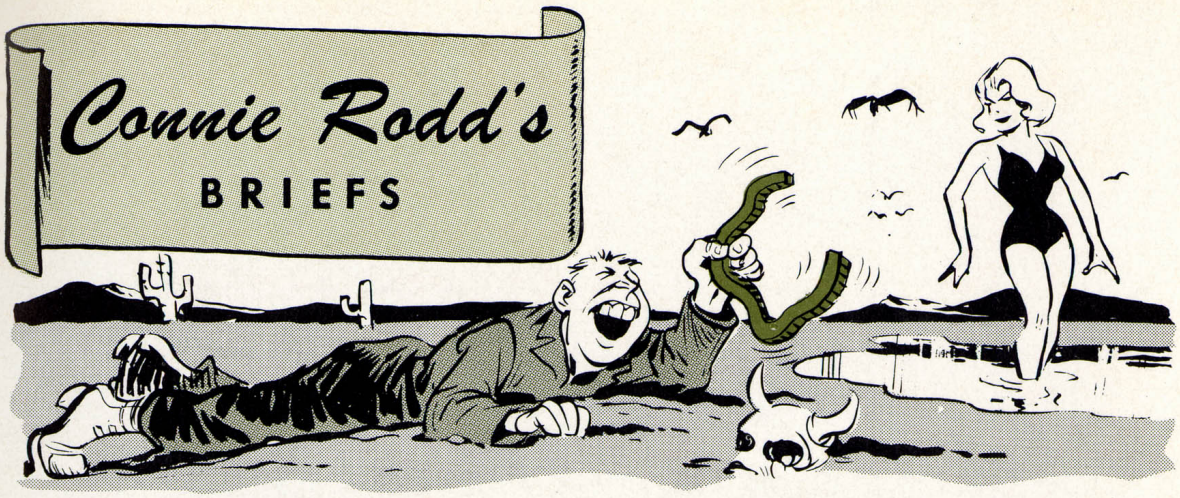
And make sure there's plenty of ventilation in the storage area to keep any vapors or gas from accumulating and setting the stage of an explosion.

If you find that your metal aerosol container is rusty or the glass aerosol container is cracked, never take a chance—release the pressure and discard.

When you discard those cans, be sure to separate them from other refuse and label them so the people who get rid of the refuse will know they're there.

When you do burn them, you should burn them in a cage so there won't be any danger from fragments.

If you puncture the cans under water you can dispose of them like you would ordinary metal waste.



NEW ESC LIST

You'll find the latest list of ESC's in DA Circular 750-7 (26 Jan 65). You need one ESC technical manual for each piece of equipment you have on hand. If you didn't get enough ESC's, then order them on a DA Form 17 from the St. Louis Publications Center.

THESE WON'T GET LOST

If you didn't get around to field fixing that lock spring on your M60 machine gun to keep it from getting lost — like it was shown in PS 144 — don't bother. Now you can get a newly-designed spring that'll stay put. Ask for Spring, leaf... FSN 1005-975-8595—7792398. It's listed in your new TM 9-1005-224-20P (7 Jul 64).

LET'S CALIBRATE

Well, maybe that's a job for higher echelon, but you can get the dope on how often some of your equipment's supposed to be calibrated if you get hold of TB 750-93-10/1 (Nov 64). It's called "Calibration Requirements for Test and Measuring Equipments Used in Support of Mobility Equipment Materiel."

...NOW TO INFINITY

A calendar that's good forever — or until you wear it out. With the Combination Perpetual and Leap-year Calendar, you can figure out the Julian date in a flash. One side has leap year, and the other has regular years. It's 8 x 10-1/2 inches, printed on durable cardboard. GSA has it. FSN 7510-226-5401 gets you a package of 50.

A REVISED PINPOINT FORM

You missile, rocket, and air defense people will want to get hold of revised DA Form 12-32 (1 Feb 65), "Requirements for Army Missile, Rocket, and Air Defense Fire Distribution System Publications." This revised form is very different from the old (Oct 61) version. DA Circular 310-26 (26 Feb 65) gives you info about the revised form.

NO. 2 COMMON

There's a new pub which lists the tools in your No. 2 Common Tool Kit. Ask for SC 4910-95-CL-A72 (Nov 64). It supersedes SM 9-4-4910-A86 (13 Feb 63.)

Would You Stake Your Life right now on the Condition of Your Equipment?

HOW FAST 'N HOW FAR

COULD YOUR OUTFIT MOVE IF THE WORD CAME DOWN TO GO?